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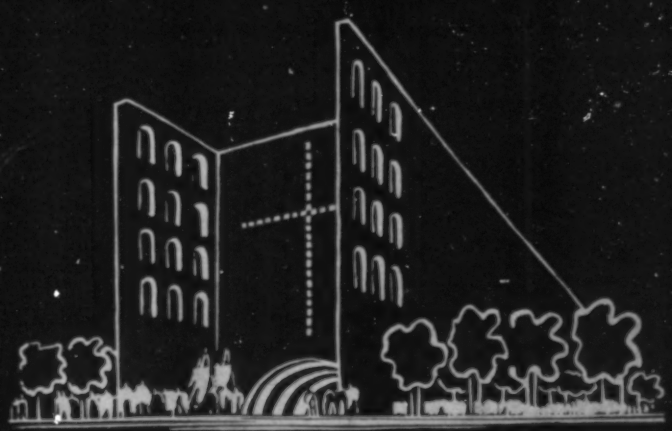
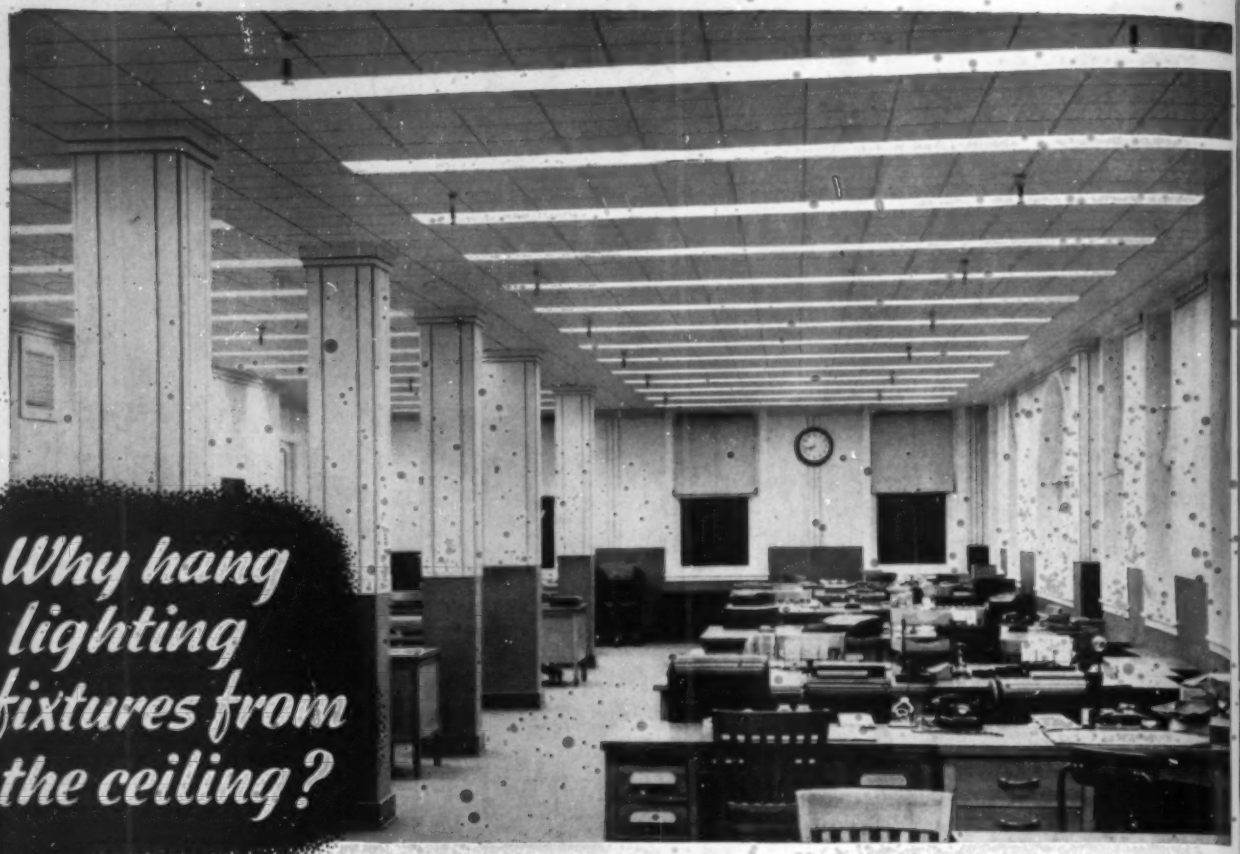


SEPTEMBER 1944 · CHURCHES



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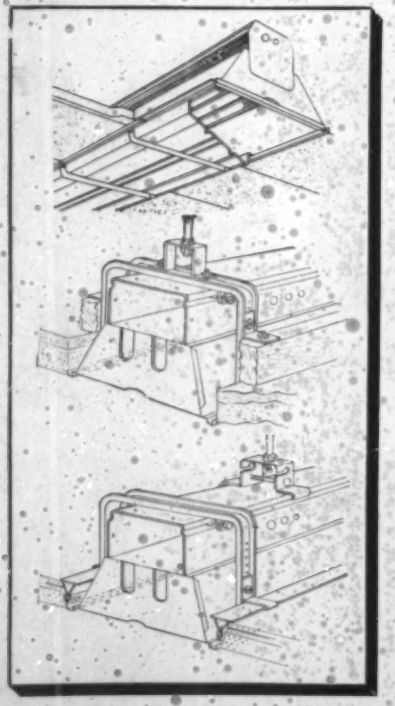

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COMBINED WITH AMERICAN ARCHITECT AND ARCHITECTURE

VOL. 96 **SEPTEMBER • 1944** NO. 3

COVER: Illustration by Francis X. Gina

POSTWAR QUANTITY AND QUALITY 61
An Editorial . . . by Kenneth K. Stowell

DAUPHIN COUNTY COURT HOUSE 62
Harrisburg, Pa. Lawrie and Green, Architects

A PATTERN OF PLANES AND PURPOSES 76
Residence and Studios for Willard and Barbara Morgan, Scarsdale, N. Y. John R. Weber, Architect

"ONE-ROOM" HOUSE PLANNED FOR THE COMFORTS OF LIFE 80
Residence in Scarsdale, N. Y., planned for his own home by John R. Weber, Architect

BUILDING TYPES STUDY No. 93 . . CHURCHES 83

PICTURE, SENTIMENT, AND SYMBOL 84
Some Comments on Modern Church Architecture. By Joseph Hudnut

ARCHITECTURE AND RELIGIOUS TRADITION 89
By Charles D. Maginnis, F.A.I.A.

CHURCH PLAN THAT POINTS A MORAL 92
Proposed Building for the First Reformed Presbyterian Church, Los Angeles, Cal. Walter L. Reichardt, Architect

A TYPICAL "TRANSITIONAL" CHURCH 94
Church of St. Francis of Assisi, Rochester, Minn. Hills, Gilbertson and Hayes, Architects

SOME TRENDS IN CHURCH DESIGN 95
By Brother Cajetan Baumann, O.F.M.

POSTWAR CHAPEL PLAN 98
Kirkridge Chapel, Delaware Water Gap, Pa. Paul Beidler, Architect

"LET MATERIALS SPEAK FOR THEMSELVES" 99
Proposed Building for Christian Reformed Church. Whitney R. Smith, Architect

MODERN FACILITIES, TRADITIONAL STYLE 100
Postwar Plan for the Asbury-First Methodist Church, Rochester, N. Y. Wenner and Fink, Architects

FOR A CHURCH'S COMMUNITY ACTIVITIES 103
Church and Community Center, Hillsboro, Ore. Sutton, Whitney and Aandahl, Architects

NOTES ON POSTWAR SYNAGOGUE DESIGN 104
By Ben C. Bloch. Bloch and Hesse, Architects

FOUR POSTWAR CHURCHES FOR THE SOUTH 106
Barber and McMurry, Architects

REQUIREMENTS FOR CHURCH LIGHTING 109
By Edward Rambusch, I.E.

TWO CATHOLIC CHURCHES, PREWAR AND POSTWAR 111
Henry V. Murphy, Architect

BAHA'I SHRINE FOR THE WESTERN WORLD 112
Bahá'i Temple, Wilmette, Ill. Louis J. Bourgeois, Architect

TIME-SAVER STANDARDS . . . Hall Closets 113

THE RECORD REPORTS . . . News from the field 7

REQUIRED READING 26

FOR BETTER BUILDING 44
News of materials, equipment and methods

INDEX TO ADVERTISEMENTS 178

H. JUDD PAYNE, Vice-President in charge of Magazine Division

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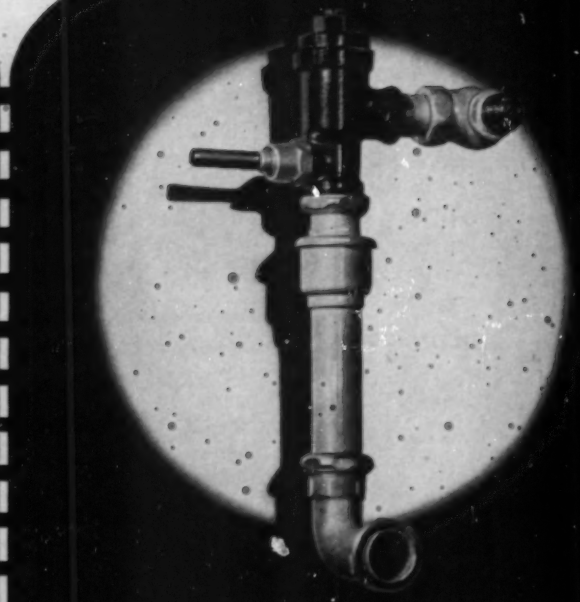

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THE RECORD REPORTS

Industry Advisory Committee • Fixtures Reserve
Surplus Problems • Post-Victory Controls • Priorities Plan
Taft Investigation • Role of Housing Costs

When the Chamber of Commerce construction committee met with Donald Nelson recently, it asked, among other things, that he appoint a vice chairman to deal exclusively with building. Nelson's reply was the kind that a diplomatic man always makes—that he thought highly of the idea and would consider it. Actually, he is likely to be hospitable: first, he agrees with the builders that to avoid unemployment construction must get started quickly; and, second, he has always been ready enough to set up new divisions, bureaus and vice-chairmanships in WPB when they seemed to be called for or were strongly wanted. One hitch is that if such a post is given to construction, other industries too will want someone to sit among the vice chairmen.

But the suspicion has gotten about among government men that the builders want a high place in WPB as a means for by-passing Blandford and the National Housing Agency which now appeals for materials on the builders' behalf. Those who hold it say that restrictions on building result from Army rather than from WPB insistence itself so that a chair at the vice-chairmen's table would not help much. They add that Blandford, who sits now with Nelson at meetings of the Congested Areas Committee and the War Manpower Commission and who has occasional access to Roosevelt himself, is in a better position to put forth the claims of the builders than any vice-chairman would be. But those who made the request reply that a vice-chairman's post will count after Hitler has been licked and the Army has given up its opposition, when, in substance, the fight for facilities and materials is not between Army and WPB but between different industries trying to reconvert first. At that point, they say, construction will want someone in WPB who has lunch or fights with representatives of other trades rather than one who meets Nelson as a peer and sometimes visits the president.

Advisory Committee

While Nelson ponders over this request, WPB's attorney, John Lord O'Brian, is reviewing the Chamber committee's panel from which an industry advisory committee within WPB may be created. O'Brian tried to get a commitment from the Department of Justice that WPB control over reconversion jobs would be exempt from Sherman Act prosecutions, but got only a statement that the Department will be delighted to review particular controls before they go into effect. He is particularly touchy about advisory committees and has ruled against further dealing with the Chamber's informal group. If it becomes reorganized within the WPB set-up, it will go on with the things that it has been doing for the past year.

Fixtures Reserve

The major question for the committee and those in WPB handling construction is how to release building materials after the European war ends. Nelson calculates that war production will be cut about 40 per cent and many of his aides are agreed that, notwithstanding talk about a smooth shift to civilian work, the cuts will be sudden.

At the meeting with Nelson, the Chamber committee asked WPB to do what the facilities bureau has been trying to do anyway—to build a reserve of fixtures before construction starts. Jobbers' inventories are said to be scraping bottom, so that it is easy to picture unhappy contractors with almost finished jobs on their hands—just lacking stoves or bathtubs or heating equipment.

The list of goods which may be produced under Nelson's famous August 15 order does, indeed, include some major building items. But until the end of the European war, not much can be done in fact under this order. After that, activity will depend, probably, on ordinary market as well as on governmental factors. On items not now in production, prices may run 15 per cent higher than prewar levels, according to OPA economists who have been talking to manufacturers.

Surplus Problems

Because the supposition is fairly general that builders' goods will be hard to buy, particularly new products, contractors and manufacturers are asking a lot of questions about surpluses. The surpluses in which a construction man is interested are not easy to outline to the officials handling sales and, at the moment, invitations to bid are not issued with an eye to the construction industry. This may be remedied later. Meanwhile, larger concerns are trying to get jobs for their own men in

(Continued on page 10)

"Orders were to restore war damage only! Did I tell you to restore the old Roman Forum?"

—Drawn for the RECORD by Alan Dunn

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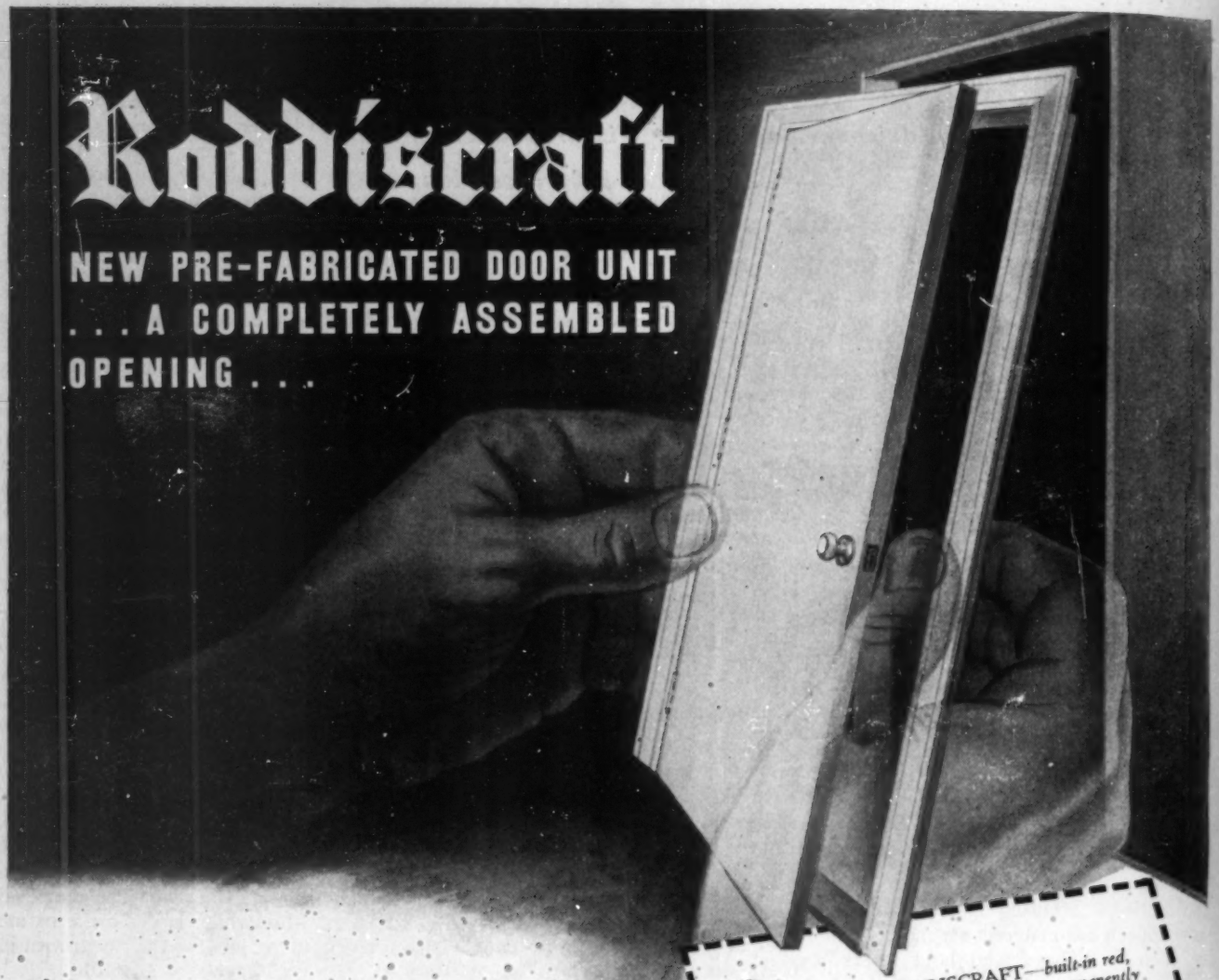

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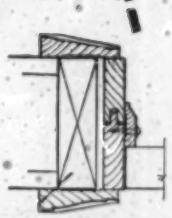

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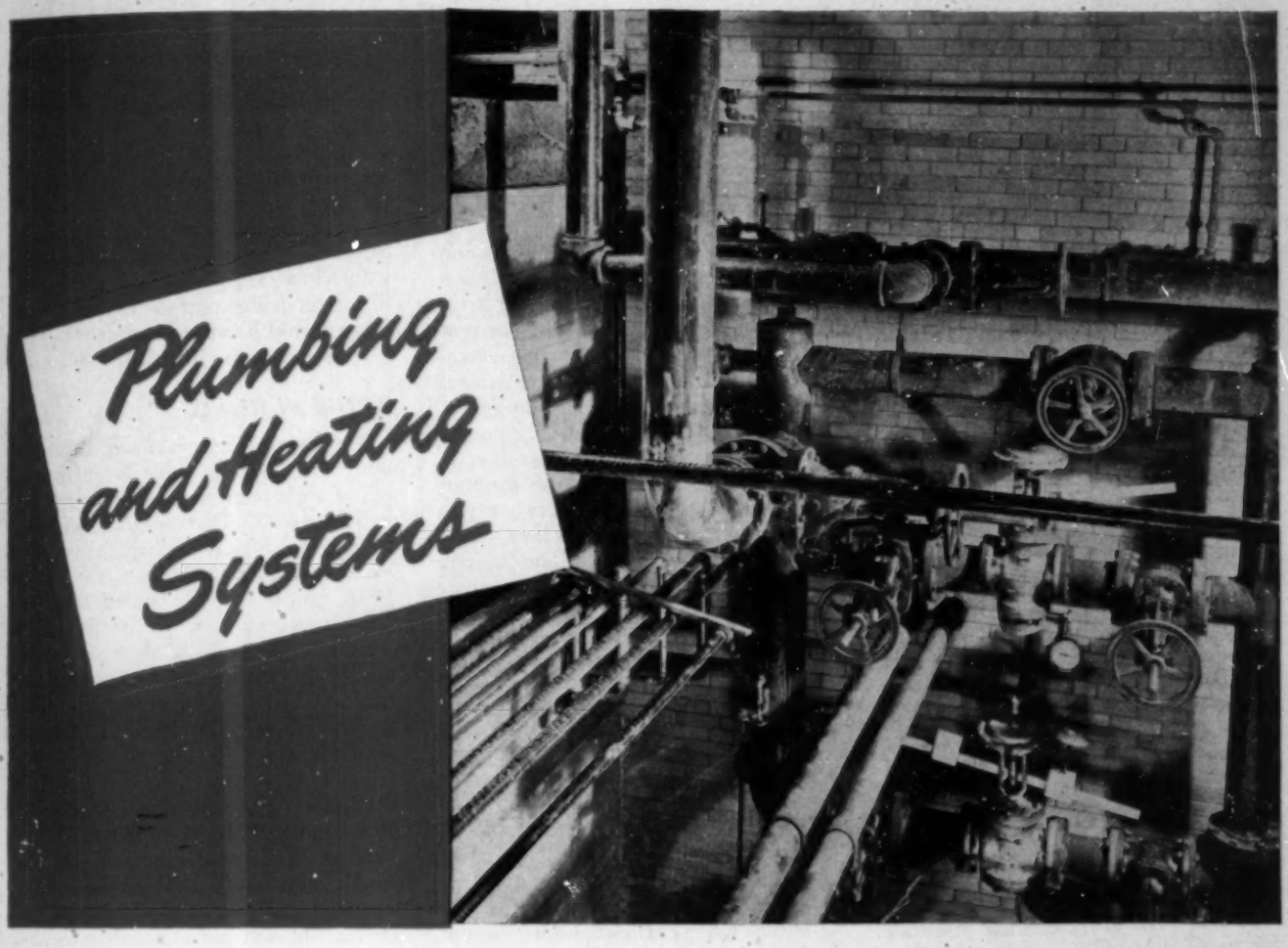

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 (Continued from page 7)

the disposal agency just as they were trying, two years ago, to post people in WPB and OPA.

Post-Victory Controls

On behalf of the Chamber's committee, Allen J. Sayville, of the American Society of Civil Engineers, presented a memorandum to Nelson suggesting how construction should be controlled after European victory. He asked that as far as practicable local jobs be approved to keep building workers employed in their own fields and that WPB, from time to time, forecast which materials will be available. In selecting construction jobs, he urged, WPB should take into account, area by area: "(a) The availability of manpower on a regular time basis in the area; (b) Consideration of the required use of critical materials; (c) The value to industry or benefit to the community of the construction proposed is to be determined when available labor and material are not sufficient to meet current demands."

The committee asked that the tests be applied by local officials working on advice of construction men and their customers.

Priorities Plan

When it is formally recognized, the committee will probably dissent from a current plan to fix definite priorities for specific classes of construction. The idea being discussed in WPB is to give first place to industrial and farm buildings, transportation facilities, etc., second place to housing and business buildings, and third place to institutional building as regards maintenance, improvement and new construction. The committee point of view is that what is needed and what can be done will vary in different communities so that any fixed order of preferences will jam the works.

Taft Investigation

Almost as much energy is given to postwar as to transition building. In one of the tiny cubicles of the Library of Congress, known as study rooms, investigators for the Taft subcommittee on housing are sorting the early answers to a questionnaire sent to government agencies, builders, materials manufacturers and others. The findings probably will be published sometime in September, after which Taft will invite those who responded to Congressional hearings. A bill may be ready soon after the next Congress meets.

Those working up the reply for NHA stress the need to house families with incomes ranging from $1,000 to $3,500. TNEC figures show that in 1938, 17 million families out of 22 million had incomes less than $2,000. Of 350,000 units built last year, only 65,000 were for families in that bracket.

Role of Housing Costs

As it is being written now, on NHA's statement hinges the solution chiefly to housing costs. The big items called into question are the costs of distributing—not manufacturing—components, and labor. The hope is that large scale building—perhaps by use of prefabricated materials—will cut distribution costs as builders order directly on manufacturers instead of through middle-men and will cut labor costs as steadier employment makes lower rates acceptable to workers. The unions have not been heard on this.

To secure large scale building of the kind, the study may propose changed methods of financing. Particularly, such institutions as insurance companies, trustees and savings banks may be urged to build directly instead of buying mortgages. New York life companies do this now; requisite changes in the investment regulations of other states are being pushed.

Turn-Over of Homes

Those who envisage high volume building in the postwar years point out that the new building will force swifter turn-over of ownership of present homes, since the buyer of a new house vacates an old one or an apartment. Values of present real estate should drop, they say, as new houses are put up. They would like to see declines in values more or less standardized according to age, as in the trading in of old automobiles. The enthusiasm with which a high turn-over of home ownership is welcomed in official quarters may invite criticism from social workers who, for years, have been preaching that stability is morally desirable in that it develops civic awareness. If it takes place, it may also invite the criticism of local politicians facing changed constituencies on which they cannot count.

Producers Council Plans

The Producers Council is putting out "for discussion" a set of plans for postwar construction which stresses the idea of new building for those in the higher income brackets and of remodeling for those in the lower. It is not being urged dogmatically because it would have taken too much time to bring the various sections of the organization together to agree on a set of ideas.

Use of remodeled houses for the poorer classes, according to the Council's thinking, would not require that they be bought at bankruptcy prices. The jobs including original purchases would be subsidized. The Council, like others in Washington, is eager to see more equity money go into the building industry, with state statutes changed along the lines of New York State insurance laws. Those in WPB who handle hotel problems are urging that remodeling precede new building. They would like the hotel men to take local tallies of the items they will need.

GI Bill of Rights

Meanwhile, there is much discontent with the housing sections of the GI bill of rights and amendment probably will be asked. Foremost, the industry wants the period in which veterans may borrow their down payments on FHA homes to be extended from the present two years at least to five years. Terms under which these payments are to be guaranteed are considered unclear and the Veterans' Administration is in difficulties in drafting regulations.

FHA may have to go to Congress for money to finance H2 construction. But, it may be faster to get rid of the current WPB restrictions on housing so that new work could be done under peacetime FHA methods instead of under the war sections. Which will come first will depend naturally on when the European war ends. If it is soon, Ferguson may be able to avoid going before the appropriations committees.

◆ ◆ ◆

NEW YORK'S ZONING TANGLE

The New York City Planning Commission's recent announcement of proposed zoning amendments affecting light and ground coverage sent numerous architects in the city scurrying to file clients' plans of postwar structures in the hope of avoiding possible new restrictions. Fathered by Robert Moses, the proposals are to reduce the height of buildings in each class to the class below, and to impose restrictive measures regarding the amount of ground that may be covered at street level in retail zones. The American Institute of Architects has been active in the two open hearings regarding the proposed changes.

New York's zoning difficulties suggest a problem that many large cities may soon have to face: whether, in anticipation of the postwar building

(Continued on page 13)

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THE RECORD REPORTS

(Continued from page 10)

boom, to adopt some temporary zoning measure, such as proposed in New York, or to undergo a comprehensive and complete revision of all zoning regulations in accordance with a new master plan.

The present New York city law permits the required rear yard to begin 11 ft. above the curb in a B district, and 21 ft. above the curb in A districts. The proposed law does not repeal this provision with regard to yards, but it does impose a limitation upon coverage at curb level, to 65 per cent of an interior lot, and 80 per cent of a corner site. Naturally such a change makes investment interests concerned with two important factors: (1) will tax assessors recognize that the productive power of the land has been cut between 12½ and 30 per cent; (2) can sufficient return on investment be had out of certain properties if the new restrictions are passed preventing the maximum bulk now permitted by law?

Mr. Arthur Holden, president of the New York Chapter of the A.I.A., was authorized by its executive committee to support the proposal of the Commission, as an interim restriction on bulk, with the idea that undoubtedly it would stimulate discussion and enlist the assistance of the public for a more detailed revision of the entire zoning ordinance, whereby it would later be possible to relax restrictions in the interest of good planning. The support of Mr. Holden and his followers was used in some cases as unqualified endorsement of the proposal. Other people criticized Mr. Holden on the ground that if the present proposals are adopted it would be virtually impossible to affect the thorough-going revision which all acknowledge is needed.

When Mr. Holden realized that his support had been misinterpreted, he proposed that irrespective of what is done now in the form of interim agreements, a complete revision of the zoning regulations should be immediately undertaken. Mr. Holden expressed the hope that the discussion resulting from the hearings on the proposed amendments had aroused sufficient interest to put a scientific revision of the entire zoning program into action, with the City Planning Commission taking technicians of the city into its confidence, and by concentrated work during the next two months to produce a comprehensive rewriting of the whole zoning ordinance.

The City Planning Commission, however, to date has made no commitment on the future action it will take. Mr. Moses expressed the opinion that "between 10 and 20 years" (not two months) would be required to work out Mr. Holden's idea of "establishing an entirely new bulk classification with 20 or more sub-divisions, in place of the present height and area restrictions." This leaves little doubt of what can be expected: the original proposal probably will go into effect.

WPB NOTES

Two more concessions have recently been made to civilian needs: hot water storage tanks and expansion tanks no longer require preference ratings for purchase by consumers; and frozen stocks of copper and copper alloy fittings and other fabricated building materials have been released.

Action was taken to remove restrictions on the sale of hot water storage tanks, WPB officials said, because such tanks are used mainly to replace existing tanks which cannot be repaired. Order L-79, controlling distribution of plumbing and heating equipment, was revised to state that low-pressure steel boilers, designed to burn gas or oil only as a fuel, do not require ratings from consumers. The revised order also specifies that the sale of equipment using gas as a fuel is prohibited unless the prospective purchaser has obtained a letter from the utility company which will deliver the gas, stating that the gas can be delivered.

Weatherstripping and 40 other items of building materials held by manufacturers, jobbers and retailers were released by an amendment to supplementary Order M-9-c-4 and may be used without restrictions. However, the delivery and installation of copper and copper base alloy, sheet, plate, roll, strip, rod, bar, extruded shapes and wire, as building materials, continues to be restricted by the order.

COMPETITIONS

Basement Design

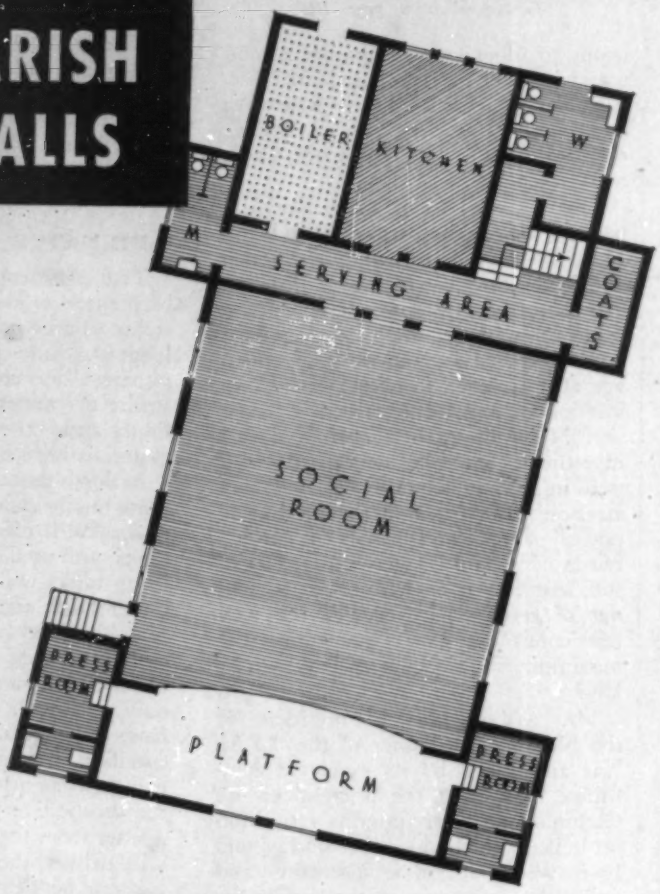
A total of $4,750 in war bonds is offered architects, engineers, designers and draftsmen in a competition for the most attractive and practical basement designs incorporating provisions for "flexible heating," the Bituminous Coal Institute announces.

"Flexible heating" is attained, according to the Institute, when heating facilities can be changed quickly to any type of fuel. The feature of flexibility assures the home owner protection against supply shortages or drastic price changes.

The program of the competition calls for design of the basement of a six-room house "in such a way that it shall be most useful, convenient, effi-

(Continued on page 14)

Here's our advice on floors for PARISH HALLS



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(Continued from page 13)

cient and attractive." The design must include provision for "flexible heating"—that is, "for the use of any major fuel, including bituminous coal."

Conducted by the ARCHITECTURAL RECORD, with Kenneth K. Stowell, Editor-in-Chief, as professional adviser, the competition will close November 15. Winning designs will be published, with credit to the designers. Prizes, in war bonds, are as follows: first, $1,500; second, $1,000; third, $750; and 15 prizes of $100 each.

For complete details, together with the necessary title pasters and name pasters, address Kenneth K. Stowell, A.I.A., 119 W. 40th St., New York 18.

House Design Contest

Six thousand dollars in war bonds have been offered to members of the National Association of Home Builders of the U. S. by the Chicago Metropolitan Home Builders Association, for a house design contest that will stress the *occupations* of residents.

The contest is a pre-convention feature of the National Association's annual meeting and exhibit, to be held in Chicago next January. Large models of the six prize-winning designs, and drawings of 12 additional honorable mentions, in six classifications, will be displayed at the exhibit. The six classifications are: (1) the city home; (2) the suburban home; (3) the industrial worker's home; (4) the farm home; (5) the summer resort home; (6) the veteran's home, or the home for two.

The contest is open only to active members of the National Association of Home Builders. Intention to participate must be indicated on or before September 20 to the National Design Contest Committee, c/o Chicago Metropolitan Home Builders Assn., 228 N. LaSalle St., Chicago. The contest closes at midnight, October 20.

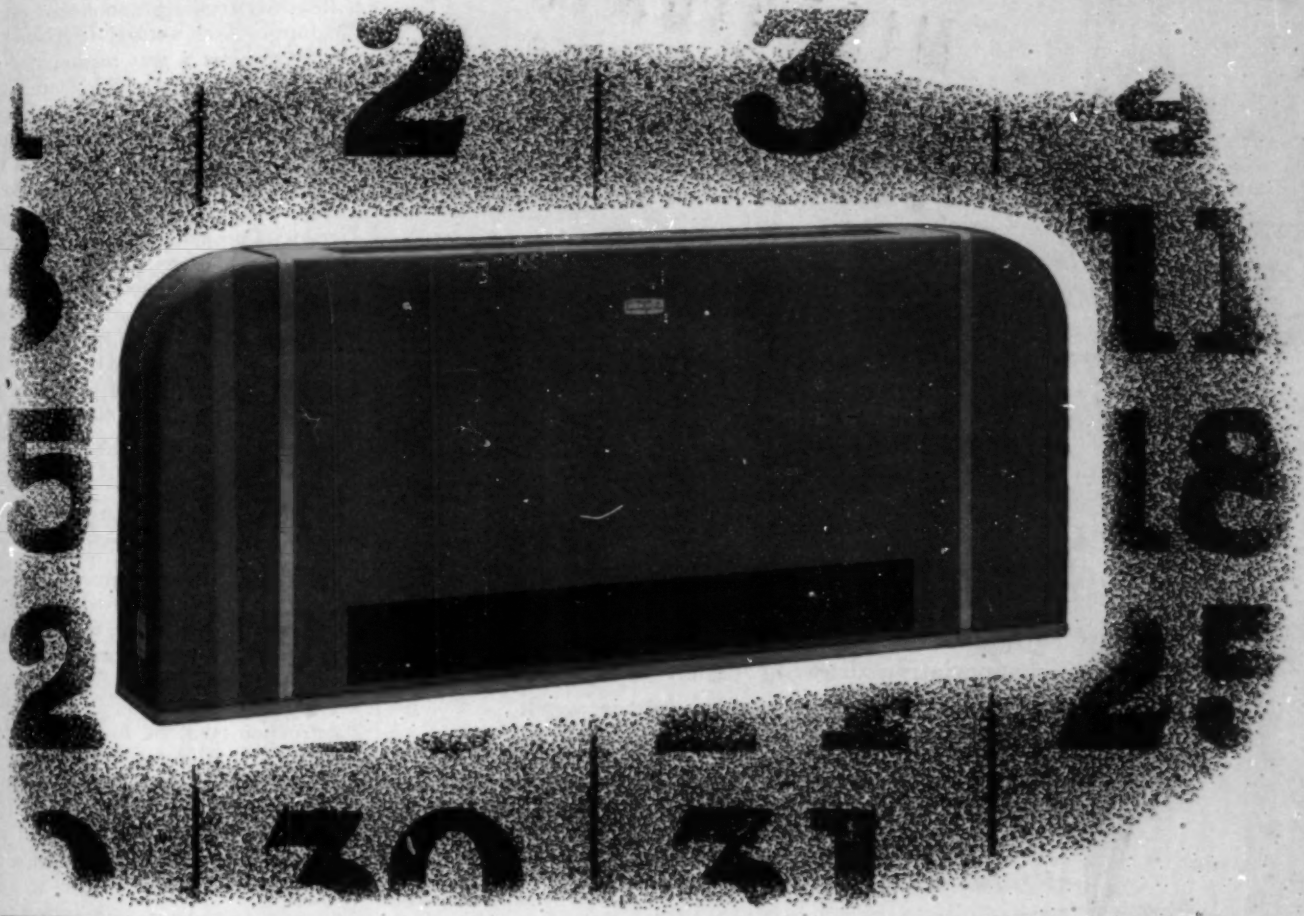
Home Workshop

Awards totaling $2,500 will be made to contestants in a national competition to discover plans for the most efficient and practical postwar home workshop layout, sponsored by the Delta Mfg. Co., Milwaukee, makers of homecraft power tools.

Under the rules of the contest, the entrant will submit to the sponsoring company a sketch showing the floor plan of his proposed workshop with an explanation of what power tools he desires and why they are valuable to him. The entry may show either proposed changes in an existing shop

(Continued on page 16)

TODAY... *the* NESBITT SYNCRETIZER *is available with* STEEL CASINGS *and* COPPER RADIATORS *as before the war!*



MAYBE you haven't heard the good news. You can now—TODAY—obtain the NESBITT SYNCRETIZER heating and ventilating unit in its pre-war construction: i.e., with *steel casings* and *copper radiators*. Units of this construction are available in two sizes—for small-capacity and large-capacity classrooms.

Recent releases, made by the War Production Board, have put steel and copper at our disposal for essential products. High priority ratings are, of course, necessary for purchase, but the majority of schools have these qualifications.

Plan now to have a modern, healthful heating and ventilating unit in every classroom. The NESBITT SYNCRETIZER is the unit for tomorrow *today*.

NESBITT *Syncretizer Unit Ventilator*

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Here is my 25¢ . . . please mail Slide Rule at once, to

Name _____

Street & No. _____

City & State _____

(Continued from page 14)

or a shop which is still only "a gleam in the homecrafter's eye."

For further information address the sponsoring company. The contest closes October 31.

Pittsburgh War Memorial

Results have been announced of the Pittsburgh Architectural Club's recent competition for a war memorial. First prize went to Charles M. Stotz for a memorial amphitheater at Flagstaff Hill, Shenley Park; second, to John R. Culler for a monument on Mt. Washington opposite the Point. First choice in the popular vote was Robert W. Pierson's Forest Recreation Reserve adjacent to Riverview Park.

The competition was held to stimulate interest on the part of citizens and officials in the planning and erection of a war memorial of suitable character. Chief emphasis was on the general idea of the memorial and the proposed location, rather than on the specific form.

SCHOOL NOTES

Architectural Engineering

A complete curriculum in architectural engineering to provide students with basic educational training both for the professional practice of architecture and for those phases of engineering related to building design and construction, will be instituted in the Evening Division of the College of Engineering of New York University this month.

The new program emphasizes broad training in fundamental engineering, mathematics and the basic sciences, and is planned to provide background for courses in related fields such as heating, air conditioning and acoustical treatment.

Professor William A. Rose of the faculty of the College of Engineering will be in charge. Complete information may be secured from the Evening Division office of the College of Engineering, University Heights, New York 53.

Courses in Architecture

Nineteen evening courses in architecture will be given at Columbia University during the winter and spring terms of 1944-45. A seminar devoted to a description and analysis of the architecture of New York City will be featured.

The courses include basic and advanced work in design, materials and methods, mechanical equipment, struc-

(Continued on page 116)

For Door Specifications

Douglas Fir Doors Completely Machined on Special Order

For all doors on post-war projects (or doors for essential building today) you can safely specify "doors shall be Douglas fir of A or B grade as shown in CS73-43, prefit to size, factory machined for tubular locks and for hinges."

Such a specification will not only mean saving of time and labor in building (enough to offset slight additional cost) but will inevitably result in client satisfaction—the door will hang better, paint better, look better, longer.

1 FACTRI-FIT doors are pre-fit at the mill, trimmed to size, ready to hang.

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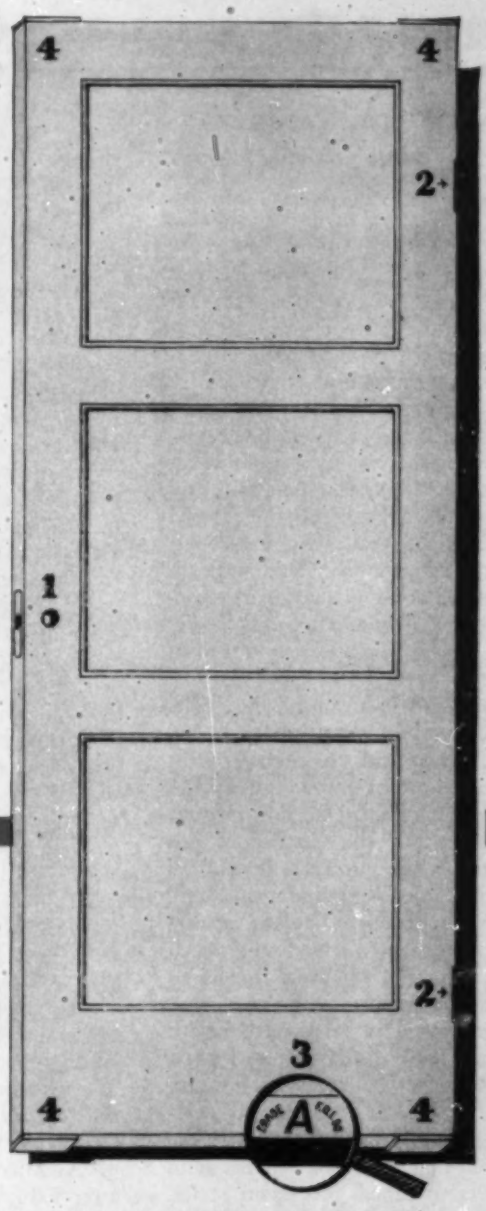

Featured 3-Panel Designs

Basic, all-purpose designs are featured in the stock line of Douglas Fir Interior Doors. Attractive, architecturally correct, these Douglas fir designs are ideally adaptable to all types of building.

And remember! The natural beauty and durability of Douglas fir assures the home owner that every Douglas Fir Door will look better—and last longer.

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Durable Douglas Fir Doors are made from all-heartwood, vertical-grain, soft, old-growth Douglas Fir.

REQUIRED READING

PLANNING OUR NEW HOMES

Report by the Scottish Housing Advisory Committee. Edinburgh, H.M. Stationery Office, 1944. 7⅜ by 9¾ in. 96 + xliv pp. illus. 3s. New York 20 (30 Rockefeller Plaza), British Information Services. 90c.

In 1942 the Scottish Housing Advisory Committee was given the task of reviewing the housing problems likely to arise in the postwar period. That they did a thorough and careful job of it is evidenced in this lengthy report published two years later. Questionnaires were sent out to a number of organizations throughout Scotland, and to men and women of the armed forces; the public was invited through the press to submit their views and suggestions; and existing housing developments were analyzed. The resultant report is rich both in information and in inspiration.

A total of at least 500,000 houses is estimated by the Committee to be required in Scotland to replace unfit houses, to relieve overcrowding, and to house new families. In the face of this "basic need" the Committee has viewed the whole problem first of all in the light of long-range goals, and secondarily with an eye to the emergency measures that will be found necessary at the end of the war.

Existing standards for minimum space per person in relation to health and comfort are discussed at length, and specific recommendations are made. The causes of present overcrowding are examined. "The main defect of housing conditions in Scotland at the present time," the report states, "is the tremendously large number of houses of three apartments and less which give rise to almost all the cases of gross overcrowding in the country. . . . Unless firm measures are taken now to correct and adjust the uneven proportions of houses of different sizes in Scotland it is obvious that in another generation the same problems of cramped living space will have to be faced again."

Two special types of housing advocated by the Committee are of only academic interest in this country: housing for aging persons and up-to-date accommodation for single persons, particularly women. Both ideas have intrinsic merit, but neither is likely to have special appeal here where elevators and compact one-room apartments abound.

Following excellent chapters on "Planning the House," "Services, Fittings and Standard Equipment," "Standards of Construction," and "Design, Layout and Amenities," the Committee turns to the immediate postwar problems. Admitting the necessity for some kind of transitional accommodation, designed purely for temporary occupation, the Committee is insistent that whatever this transitional accommodation may be, it must conform to minimum standards of space and sanitation. An interesting suggestion is that of accommodation capable of being converted or "upgraded"—houses ultimately intended for single families, but so designed that in the immediate postwar period they can take care of two families each.

One of the most interesting sections of the report is the appendix, which includes a series of model plans illustrating the various recommendations made in the main body of the text. Also included is a tabulation of the replies to the questionnaire sent to the armed forces and to industrial organizations. The difference between British and American housing goals is nowhere else so apparent, particularly as regards central heating and continuous hot water.

BUILT IN USA 1932-1944

New York 19 (11 W. 53rd St.), The Museum of Modern Art, 1944. 7½ by 9¾ in. 128 pp., 206 plates. $3.00.

The good work that the Museum of Modern Art has been doing in the past decade to present modern architecture to the general public needs no introduction. Under the tutelage of Philip Goodwin, the Museum's Department of Architecture has staged exhibition after exhibition, many of which have toured the country, arousing interest not only in modern architecture, but in city planning (which the Museum has consistently stressed as a vital need) and in architecture *per se*. The latest of these, to which the present volume is a companion piece, was part of the Museum's 15th anniversary exhibition, "Art in Progress." This exhibition covered the period since 1932, the date of the Museum's first, and most recent showing of contemporary architecture.

Philip Goodwin, in his introduction to this printed version of the exhibition, anticipates all possible criticism of the Committee's 47 selected buildings. "The list by no means covers *all* the excellent modern buildings of the period," he says, "nor, perhaps unjustly, does it represent many architects who have turned out consistently good work, but have not yet happened to produce any one building which the Committee could agree upon as a distinguished architectural achievement. Some of these omissions will be preferred by many people to this or that building which is included in this book. And many critics will object to the relatively small number of categories which are represented." On the whole, however, the selection is a good one.

The book itself is well ordered and attractively presented, progressing from Frank Lloyd Wright's famous "Falling Water" house through a group of residences by such architects as Harwell Hamilton Harris, Walter Gropius and Marcel Breuer, Edward D. Stone, William Lescaze, *et al*, to apartment houses and housing projects, to schools, public buildings, stores, plants, etc. The *omega* of the book is an exceptionally lovely photograph of the Bronx-Whitestone Bridge, New York.

THE ENJOYMENT OF THE ARTS

Max Schoen, Ed. New York (15 E. 40th St.), Philosophical Library, 1944. 336 pp. illus. $5.00.

The purpose of this book, Max Schoen says in his introductory chapter, is to offer the reader "the means for attaining his orientation in the realm of art by a careful study of what those who have a right to speak have to say about the art which is their main interest because it is the art to which they are most highly responsive." Each of the chapters—on painting, sculpture, architecture, music, etc.—is written by a critic competent in that particular field. The book as a whole, therefore, is characterized more by enthusiasm than by agreement.

In the field of architecture, Laszlo Gabor is the critic. Confronted by space limitation and the necessity of including history as well as criticism, Mr. Gabor hardly could be expected to offer much new material or to delve deeply into any one phase of his subject. Yet his is one of the shortest chapters in the book, and as such seems needlessly compressed. His discussion of what happened to ture architecture from the pure expression of the Greek temples into the bewilderment of the 19th century, for instance, is much too brief, and the whole chapter is a tantalizing indication of what Mr. Gabor *could* have done had he permitted himself an occasional dip beneath the surface of his subject.

ARCHITECTURE AND DESIGN

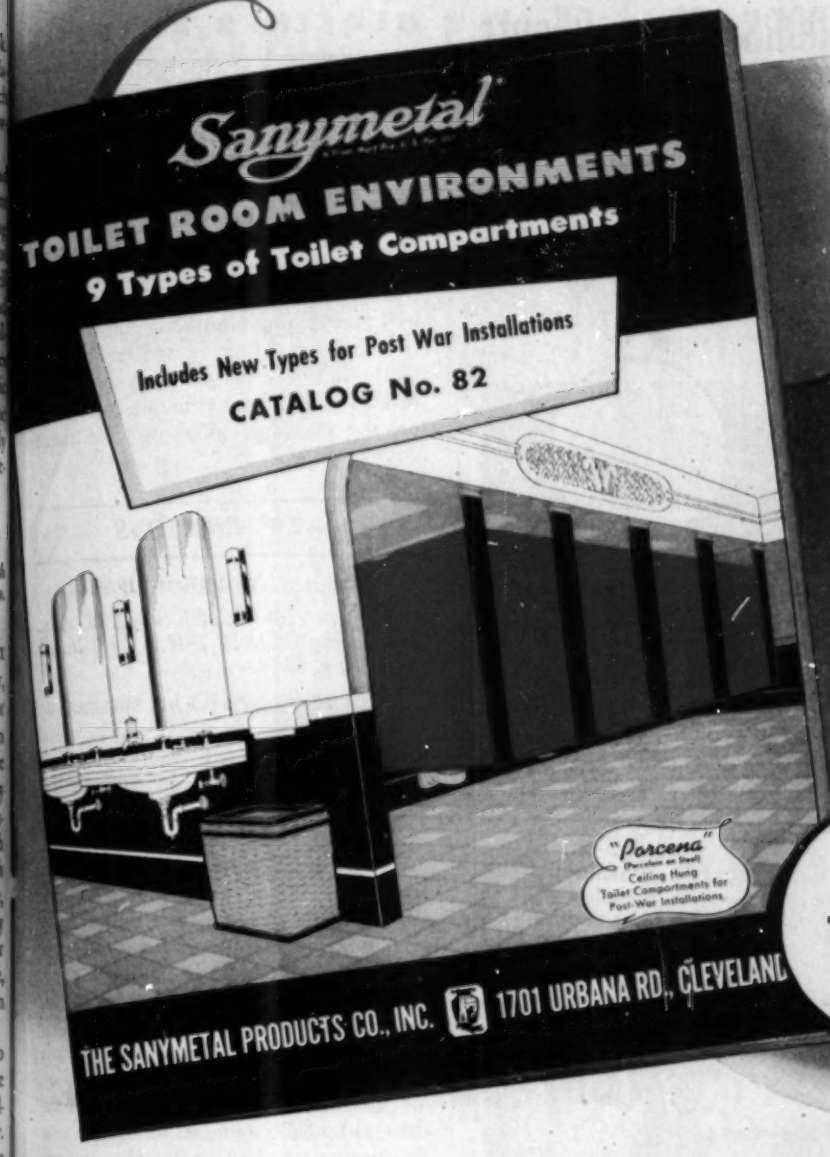
Chicago (160 N. LaSalle St.), Division of Architecture and Engineering, State of Illinois, 1944.

As postwar planning is increasingly brought to the public eye and attention more and more focussed on state and city planning bodies, this photographic record of the work of the Illinois Division of Architecture and Engineering since 1929 is both impressive and interesting.

All types of architecture, as would

(Continued on page 28)

Refer to Sanymetal Catalog 17/12, Sweet's Architectural File for 1944, for complete information on Toilet Environments.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Designs for the future are soon to become those of the present. Frills, furbelows, and flourishes are on the way out. A late pre-war trend toward blending utilitarian features with aesthetic treatments has its full development yet before it. Equipment and materials that are likely to result in obsolete environments are to be avoided in the buildings of tomorrow. The virtue of simplicity, cleanliness and good taste will not be denied expression. A persistent public, inspired by the possibilities of a bright future, will set the keynotes for tomorrow's structures. From now on, the architects, engineers, builders and manufacturers who achieve progress will be those who correctly interpret this growing sentiment and prepare to satisfy it.

Your inspection of Sanymetal Toilet Room Environments Catalog No. 82 is cordially invited. Therein will be found the illustrated meaning of the foregoing message with complete information on six modern types of toilet compartments you will want to use to develop toilet room environments for all types of buildings of the future. Sanymetal Catalog No. 82 is contained in Sweet's Architectural File for 1944, or you may procure your own private copy by mailing the coupon.

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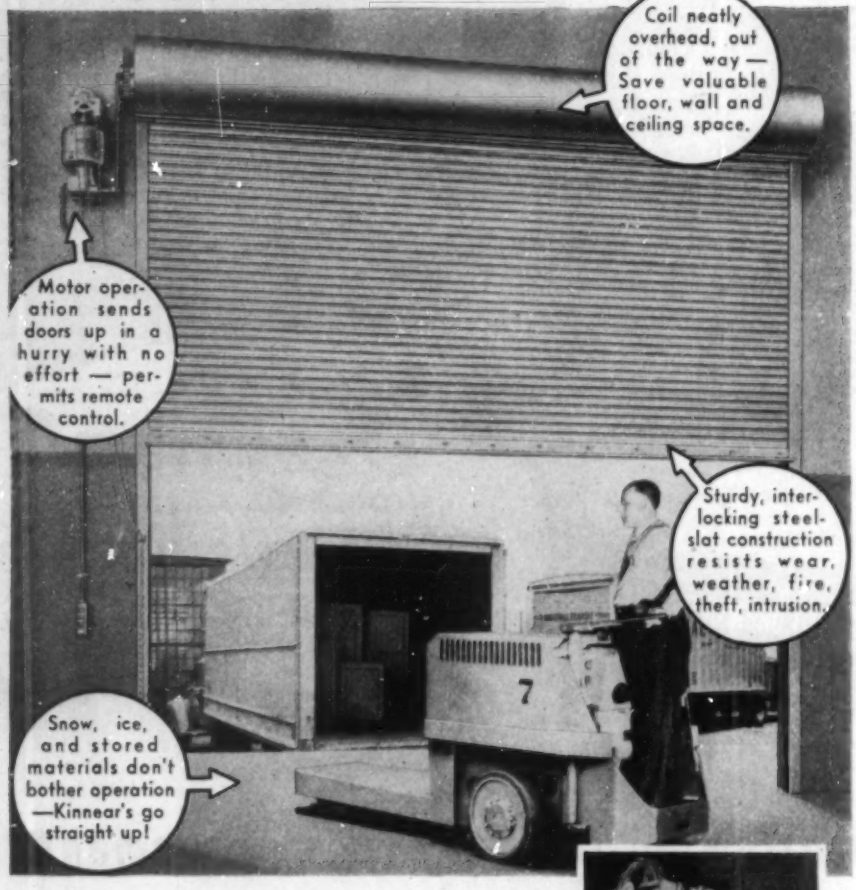
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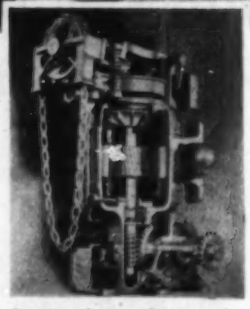

Sectional view showing the rugged construction of the Kinnear Motor Operator.

When you install Kinnear Rolling Doors you gain more than smooth, easy operation. Kinnear Rolling Doors coil overhead, out of the way, offering valuable savings in floor, wall and ceiling space. The sturdy, interlocking steel-slat construction discourages theft and intrusion; repels fire and the elements. Kinnear durability has been proved — doors in continual use for 20, 30, and even 40 years are still giving the same efficient service. Motor operation enables you to raise doors quickly by merely touching a button, thus saving time and labor. Push-button control cuts operating and air-conditioning cost by reducing the tendency to leave doors open. For efficient time- and labor-saving doorways, write for full details on Kinnear Rolling Doors. The Kinnear Manufacturing Company, 1860-80 Fields Avenue, Columbus 16, Ohio.

SAVING WAYS IN DOORWAYS

KINNEAR ROLLING DOORS

REQUIRED READING

(Continued from page 26)

be expected, are represented in the Department's selection: educational buildings, armories, penitentiaries, hospitals, and, in the special supplement on parks and memorials, restorations, park buildings and memorials. As for the architecture itself, it is equally varied, though predominantly conservative in character. There is nothing here to alarm Illinois residents as to the future of their state-planned architecture, but, on the contrary, much to give them confidence.

NEW EDITIONS

HOUSING YEARBOOK: 1944

Chicago 37 (1313 E. 60th St.), Natl. Assn. of Housing Officials, 1944. 6 by 9 in. vii + 176 pp. $3.00.

Once again NAHO has summed up a full year's housing activities in a few brief pages, intended to serve as handy reference in days to come. Included are the main characteristics of the year, the production record, administrative developments, legislation, court action, and trends in related economic factors.

Turning to what they term the "postwar puzzle," the editors point out three important uncertainties: (1) the absence of any permanent pattern for federal administrative agencies dealing with housing; (2) the absence of any federal appropriations or determination of policies that would permit any of the federal housing agencies to engage now in specific preparation for the postwar period; (3) the current arguments on the subject of public housing and urban redevelopment after the war.

In addition to the general review of the 1943 housing year there is again a separate report from each of the several federal housing agencies—NHA, FPHA, FHA and the Federal Home Loan Bank Administration—as well as from the Army and the Navy and the FSA. Also included is the usual directory of housing agencies.

THE AMERICAN SCHOOL AND UNIVERSITY

A Yearbook, 16th ed. New York 16 (470 Fourth Ave.), American School Publishing Corp., 1944. 8½ by 11¼ in. 467 pp. illus. $2.50.

Architects and city planners will find this latest edition of the Yearbook especially useful. For, looking ahead to the needs of the future, the editors have gathered together this year a series of excellent articles on the school plant and its equipment and supplies. A number of the articles are written by architects, the remainder by educators;

(Continued on page 30)

COMFORT CONTROL

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REQUIRED READING

(Continued from page 28)

all are authoritative, clearly written, and specific. A foreword by the editors sums up the present school situation, concluding with an estimate of the postwar needs in the educational field.

The usual features of the yearbook are again included: cumulative index, articles on special aspects of school planning and maintenance, classified index to manufacturers' products and services, etc.

PLANNING FOR THE SMALL AMERICAN CITY

By Russell Van Nest Black. Chicago, Public Administration Service, 1944. 7¾ by 10½ in. 86 pp. illus. $1.00.

Subtitled "An Outline of Principles and Procedure Especially Applicable to the City of Fifty Thousand or Less," this booklet is well adapted to serve two main groups: (1) students of city planning; and (2) civic minded residents of heretofore plan-less communities who want to start the planning ball rolling. First published in 1933, it was revised in 1936 and has now been again brought up to date.

"No town is too small to plan," Mr. Black declares. "There is no city with prospects so bad that there are no advantages to be gained by looking to the future." Nor, he might have added, is there any city already so well planned that it could not be bettered.

Here, then, is the ABC of town planning, general enough to suit any part of the country, explicit in its instructions, convincing in its arguments. A neophyte could make out pretty well with no other text. How to organize for plan making, the basic data that will be found essential, the legal background, are all here; likewise the part street plan and design must play, and the necessity for parks, playgrounds and recreational areas. A comprehensive bibliography is supplied for those who wish more detailed information.

PERIODICAL LITERATURE

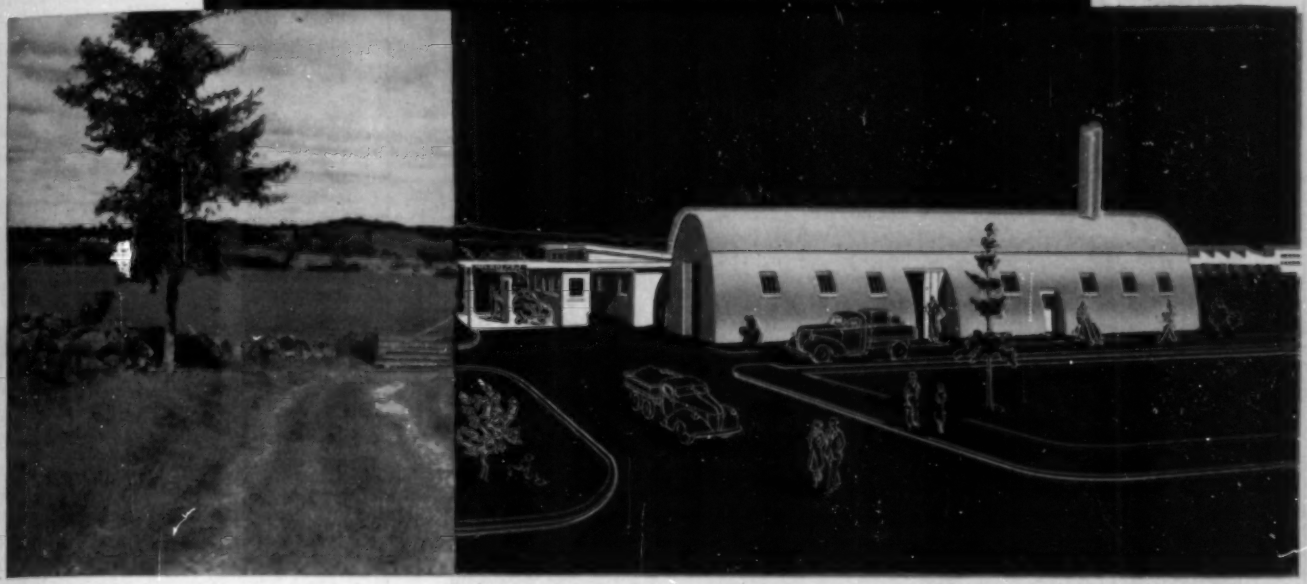
A LAND ECONOMIST LOOKS AT CITY PLANNING

By Richard U. Ratcliff. The Journal of Land & Public Utility Economics, Madison, Wis. (Univ. of Wisconsin), May, 1944, pp. 106-108.

A land economist, Mr. Ratcliff maintains, is "possessed of a better background for the conduct of city planning operations than are architects and engineers." This thesis, he hastens to add, is not presented to discredit the architects and engineers who, seeing

(Continued on page 32)

INDUSTRY GOES RURAL



For one reason or another—availability of manpower, economy of supply, improvement of living conditions—the trend of industry is toward decentralized units in rural localities. Yesterday's "whistle-stops" will become thriving and prosperous communities through the construction of processing plants, sub-assembly factories and warehouses.

Stran-Steel is qualified to serve the architects and engineers who will translate this trend into actual buildings. The engineering know-how that gave the armed forces their ubiquitous "Quonset Hut" and other Stran-Steel utility buildings will be applied to the varied needs of industrial development . . . to homes, schools, stores and service establishments, as well as industrial buildings.

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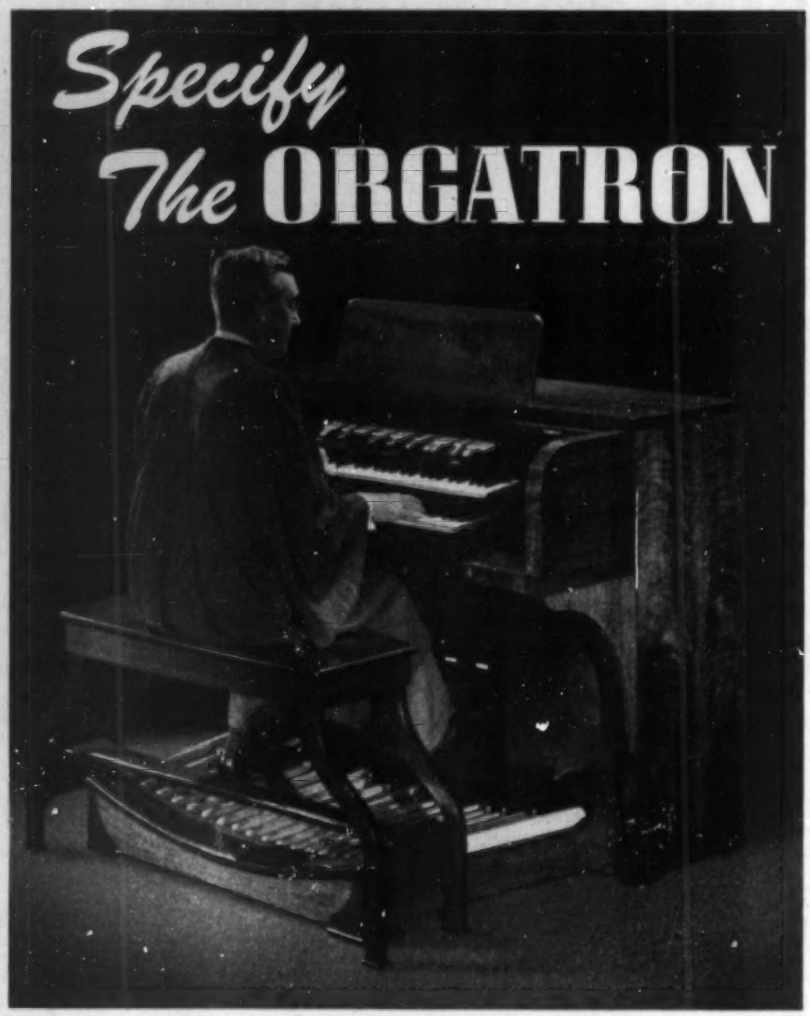

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REQUIRED READI

(Continued from page 30)

the need, have set out to do someth about it, but to awaken the social entists to their responsibilities in planning field.

Briefly, his argument is "that so considerations are more important planning than are engineering cons erations and hence that social scient must play a larger part in the proc than technicians." The proof offer is convincing enough:

1. The city is an economic and soc mechanism.

2. The physical form and ecology the city are the products of the for of demand and supply operating wi in the framework of the real est market and conditioned by econom social, and legal institutions.

3. The institutional framework the market and the socio-econom forces operating within it can be co trolled or modified only slowly a with great difficulty.

4. The area of social control to complish corrective planning is sm in comparison with the area over whi control cannot effectively be exercis

5. City planning starts with t process of forecasting the pattern whi will naturally evolve from social for as they operate within the marke framework.

6. The next step in planning is determine upon what modifications the natural growth pattern are socia desirable.

7. The practicability of accomplis ing modifications determined to socially desirable must be tested by analysis of market forces and relat institutions.

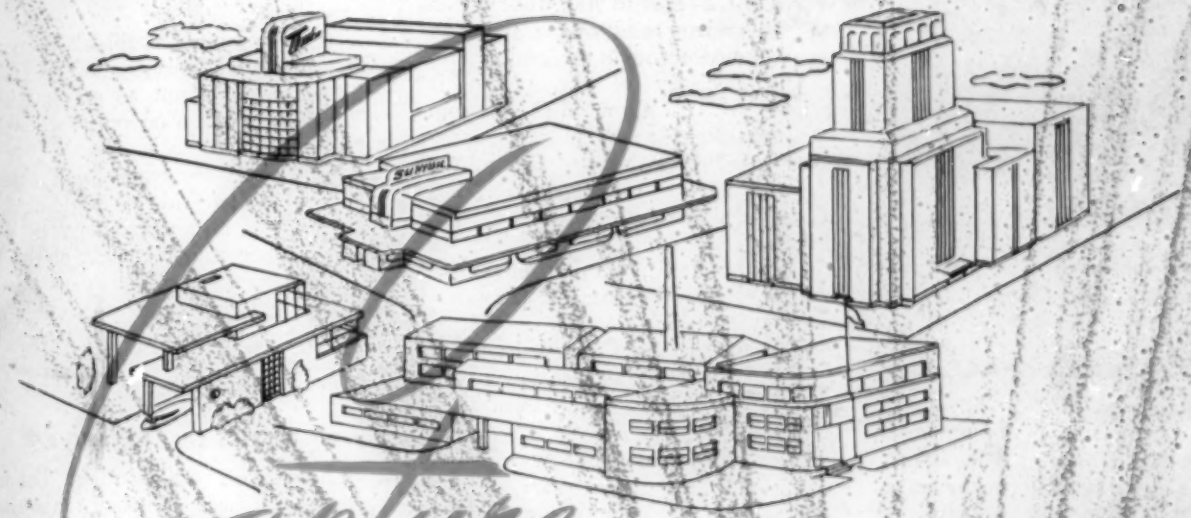
PLASTICS IN THE MODERN HOME

By Frederick Z. Pearson. Plastics, C cago 11 (540 N. Michigan Ave.), Ja 1944, pp. 20-22, 98, 99. illus.

There has been so much talk the large part plastics will play in t postwar home that an article with title such as this could easily be a dicative of more of the same thi But Mr. Pearson has set out to prese "an unbiased analysis of the possibi ties of plastics for structural appli tions in relation to other raw ma rials," and has succeeded in doing j that.

After an analysis of the various ty of plastics and their uses, with a co parison of their worth with other ma terials, Mr. Pearson makes certain p dictions. First that "if we can desi our plastic units to meet the cost of t present construction, the structu

(Continued on page 130)



Capture

THE COMING SUNRISE!

IN preparation for the coming sunrise of peace Formica research chemists have developed Formica laminated plastics in still more harmonious and suitable colors, tints, shades, patterns, and "Realwood" actual wood grains.

Research has truly captured the fleeting colors of the sunrise and held them fast. The colors do not fade. Soap and water, even strong solvents, in no way injure them.

And these new colors are more amply protected by tougher deeper plastic films, and will be many times as durable as before-the-war Formica which was the most durable of all finishing materials.

This is the modern surfacing material for wainscoat, column covering, doors, counters, table tops, show window backs and lobby paneling.

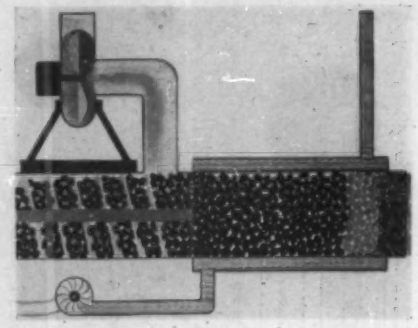
Specific data on methods of application are available to assist you in writing specifications.

Formica has met with enthusiastic approval of leading architects and interior decorators for use in the finest ships, trains, hotels, stores and public buildings. It will be available immediately when our war contracts have been cut back.

FORMICA

THE FORMICA INSULATION CO., 4651 SPRING GROVE AVE., CINCINNATI 23, OHIO

FOR BETTER BUILDING



A new principle of burning anthracite makes possible this compact furnace

POCKET-SIZED FURNACE

A furnace suitable for heating a home of average size, yet occupying a space less than 2 by 2 by 3 ft., is predicted for early postwar manufacture as the result of a new principle of burning anthracite announced last month by the Anthracite Industries, Inc. Demonstration of an automatic unit based on the new principle was made to home heating equipment manufacturers at the Industries Laboratory, Primos, Pa., on August 16.

In contrast to present home heating equipment, which burns anthracite at the maximum rate of approximately 10 lb. per sq. ft. per hour, the new development makes it possible to burn 50 to 60 lb. per sq. ft. per hour, liberating more than 500,000 Btu per cu. ft. as compared to approximately 50,000 liberated with present day equipment. As a result, the heat absorption per sq. ft. of heating surface is raised from 6,000 Btu to 40,000 or 50,000, with a reduction in the total amount of coal consumed during the heating season.

Although the new principle has not yet been incorporated in equipment available to the consumer, a number of manufacturers already are working on designs for its application in both home and industrial fields.

Said to be equally effective with either hot water, steam or warm air systems, the mechanism for applying the new principle is simplicity itself. It consists of a hollow tube 6 or 8 in. in diameter and approximately 18 in. long, surrounded with a water jacket. A revolving worm introduces the coal automatically into one end of the tube. The coal burns in the center of the tube, and the ash is discharged at the other end. Draft is provided by air which enters at the ash end of the tube and is drawn through the incoming coal by an induced draft fan in the smoke pipe. No secondary air or secondary combustion space is necessary, because under proper conditions anthracite burns to complete and perfect combustion within its own area. Water is circulated around the tube by a water circulator and carries the heat to the house through the outlet pipe.

The efficiency of the system is heightened, Dr. Raymond C. Johnson, vice president in charge of research for the Industries, pointed out, by the fact that the coal cannot clinker. "Despite the higher rate of burning," Dr. Johnson said, "it is not possible for clinkers to form, because the small size of the fire bed permits the water surrounding the tube to carry off the heat so rapidly that the actual temperature of the burning coal is lower than the point at which clinkers form in an anthracite fire."

Development of the new principle is the result of several years of basic research at the laboratory established by Anthracite Industries, Inc. Experimentation is now going on with 4 in. and 8 in. sizes, but the work is still in an early stage.

All-welded, tubular steel chairs and stools with special posture features

STEEL CHAIRS

A new line of all-welded, tubular steel chairs and stools is now available in a variety of swivel, adjustable and non-adjustable models. Finish is taupe enamel. Protruding bolts and other sharp surfaces have been eliminated. Adjustable models have a single bolt adjustment which is made by means of a sliding tube in each leg, zinc plated for rust resistance. Backrests are curved to fit against the small of the back, and are mounted on spring steel uprights which can be adjusted up and down to suit the occupant. Seats are furnished in both scroll type (formed) and round type. Seat material is non-splintering, oil-proofed Masonite. Royal Metal Manufacturing Co., Chicago.

ADJUSTABLE BATHTUB HANGERS

To prevent bathtub settling, with consequent cracks and water seepage, *Hol-Anchor* adjustable hangers are of all-metal construction which makes them capable of supporting the weight of the bath.

The wide range of adjustability permits raising or lowering of the tub with a turn of a nut, to prevent risk of damage to apron of fixture in leveling, etc.

Hol-Anchors are made to fit either the right or left side of studding by reversing the arm which engages the fixture. They may be used on brick wall construction as well as on wood, by attaching the hanger to a piece of studding and recessing into the brick wall. Hollaender Hanger Co., 1833 Sycamore St., Cincinnati.

SMOKELESS COAL STOVES

A smokeless coal-burning "bungalow furnace" and a kitchen range constructed and operated on the same basis will be available as soon as certain critical materials are released for their production. Both units eliminate smoke and gases by burning them—a process which is reported to yield about 50 per cent more heat and a third less residual ash.

The new stove, 3 ft. high and 2 ft. square, is said to comfortably heat a four or five room dwelling unit. It has a coal capacity of 100 lb., will operate for 50 hours or more without attention. Bituminous Coal Institute, 60 E 42nd St., New York, 17.

LATEX INSULATION

Recently developed is a synthetic rubber latex insulation for power, lighting and communication cable.

Made from a special modification of buna S synthetic rubber, *Nubun*, as the new insulation is called, is said to be highly flexible, impermeable to water, and exceptionally homogeneous following vulcanization. Another quality claimed for the product is perfect centering of the conductor to produce an insulated wire of maximum conductivity and minimum diameter. U. S. Rubber Co., Rockefeller Center, New York City.

CORK SUBSTITUTE

A new cork substitute, *Norescal*, developed by S. I. Aronovsky, W. F. Talburt and E. C. Lathrop, all of the Department of Agriculture's Northern Regional Research Laboratory, is said to closely resemble cork in physical structure and applicability. The material is formed by cutting pitch into fine particles or using fine fibers carrying air and incorporating these with

(Continued on page 124)

Postwar Quantity and Quality

◆ There is more planning of buildings going on than can be stated in statistics or shown in "permits issued." Architects are busy designing for clients who prefer, for various good and sundry reasons, that their plans for building shall not be disclosed, at least for the present. No one wants to be accused of engaging in any activity not connected with winning the war. States and municipalities, however, are vocal in showing that they have (or are making) plans for postwar public improvements that will provide employment for returning soldiers and war workers.

◆ One indication of the amount of planning being done behind closed doors came to light recently when a flood of plans was filed in New York's building department. Millions of dollars worth of new office buildings, apartments, stores, etc., appeared in plans ready for filing simultaneously with official (as well as newspaper) discussions of changes in zoning laws. It seemed that changes might be made that would cut down height, bulk and land coverage from previously allowed maxima. It could do no harm to obtain permits for plans already drawn to existing legal requirements, even though actual construction could not be undertaken at once. Even so the plans filed probably represent only a small proportion of contemplated New York buildings for which sketches are being made and analyzed, and working drawings are rapidly taking the shape of "Blueprints for V-Day."

In our last few issues, we have shown a few such projects, hospitals, public buildings, etc.—and, in this issue, churches. They are but indications, a few samples from the bulk of new private and public buildings now being planned. They give but an inkling of the prodigious amount of modernization, addition and repair planning now under way.

◆ The quantity of buildings needed is tremendous and is growing like a snowball rolling downhill. But what of the quality?

The pattern of design trends as exemplified in samplings of available postwar plans seems to take up about where it left off when building ceased, modern functional design gaining more and more public acceptance, but many clients (or their financiers) clinging tenaciously to their preferences for more conservative and traditional architecture. Through innovation, rationalization, experimentation, and through indoctrination and education, change is brought about. Change takes time, in building especially, but change and taxes are two inevitables.

◆ We look for rapid change when building gets under way again—when many of the younger architects return to the designing of buildings, when architectural schools are again filled with enthusiastic disciples eager for the new and the better. We look for more logical designs, as well as more efforts of the imaginative to outdo their contemporaries in producing the unusual. We look for greater freedom from the conventions of modern stylists as well as from the conventions of the periodists. We look for more "delight" in architectural design—more knowing use of color, of expressive light and shade and shadow, of forms more carefully proportioned (and equally functional). We look for an architecture that has passed its belligerent, self-conscious adolescence, freed from its self-imposed taboos; an architecture mature and efficient, honest and sincere, soul-satisfying as well as serviceable. For the practice of architecture is a fine art as well as a study in engineering and economics. We believe postwar architecture will stand qualitative as well as quantative analysis!

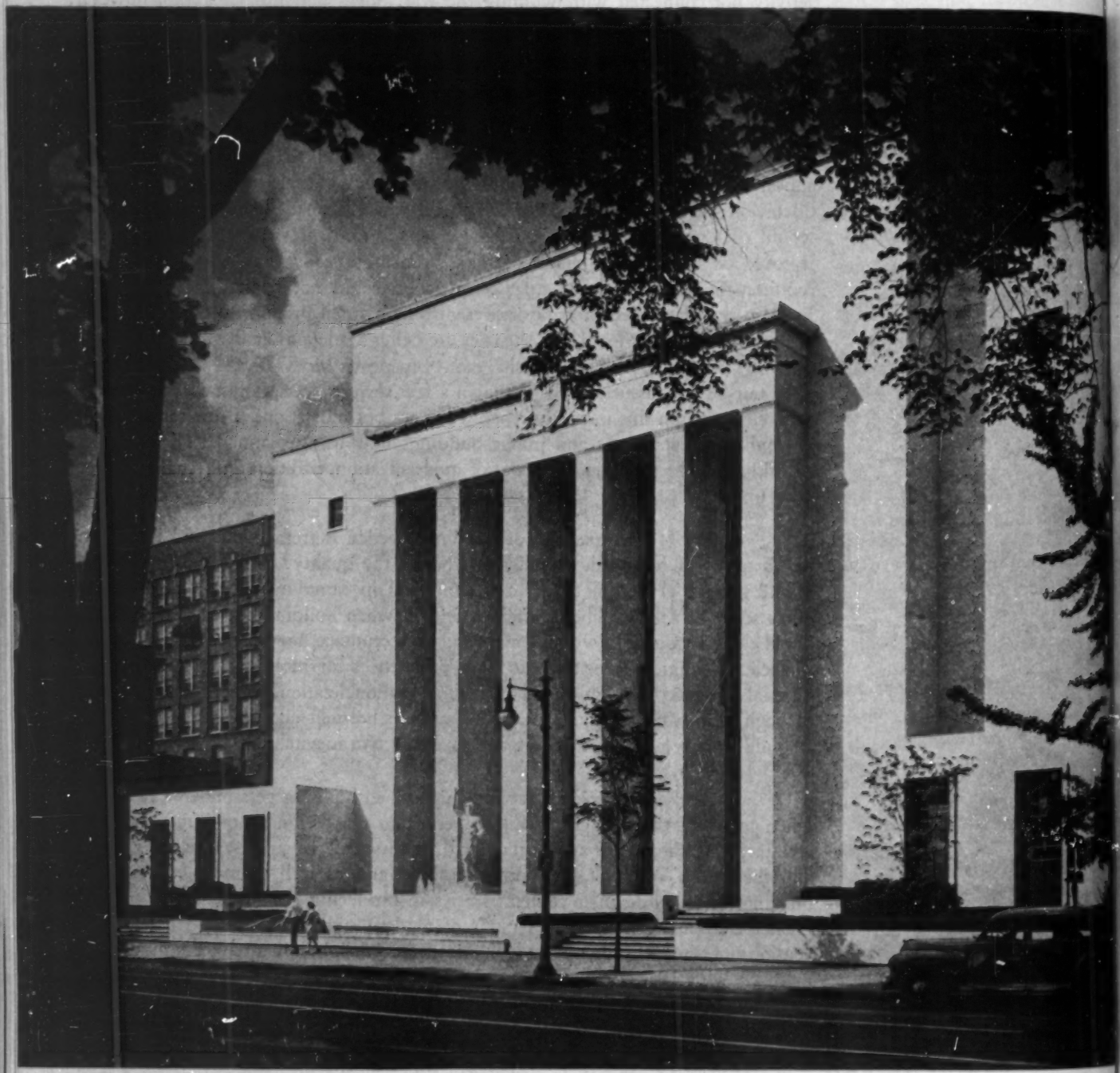
Kenneth K. Stowell

EDITOR

DAUPHIN COUNTY COURT HOUSE

Court House at Harrisburg, Pa., in the Contemporary Manner

Lawrie and Green, Architects



Marble and bronze sculptures, C. Paul Jennewein • Wood carvings, Thorsten Sigstedt

Glass carvings, Hugh Tyler

Mechanical engineers, Moody & Hutchison • General contractors, Wm. A. Berbusse, Jr., Inc.

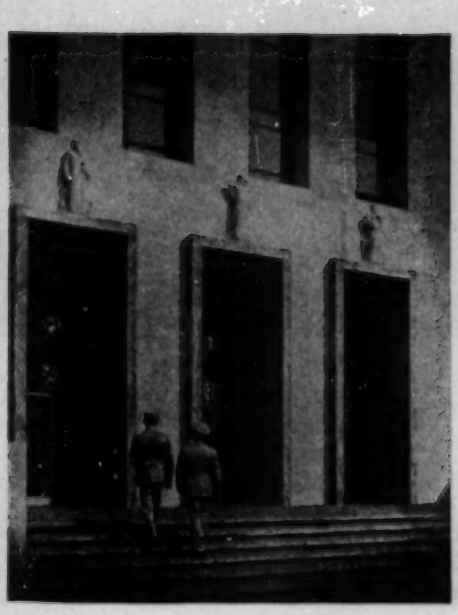
Sigurd Fischer photos

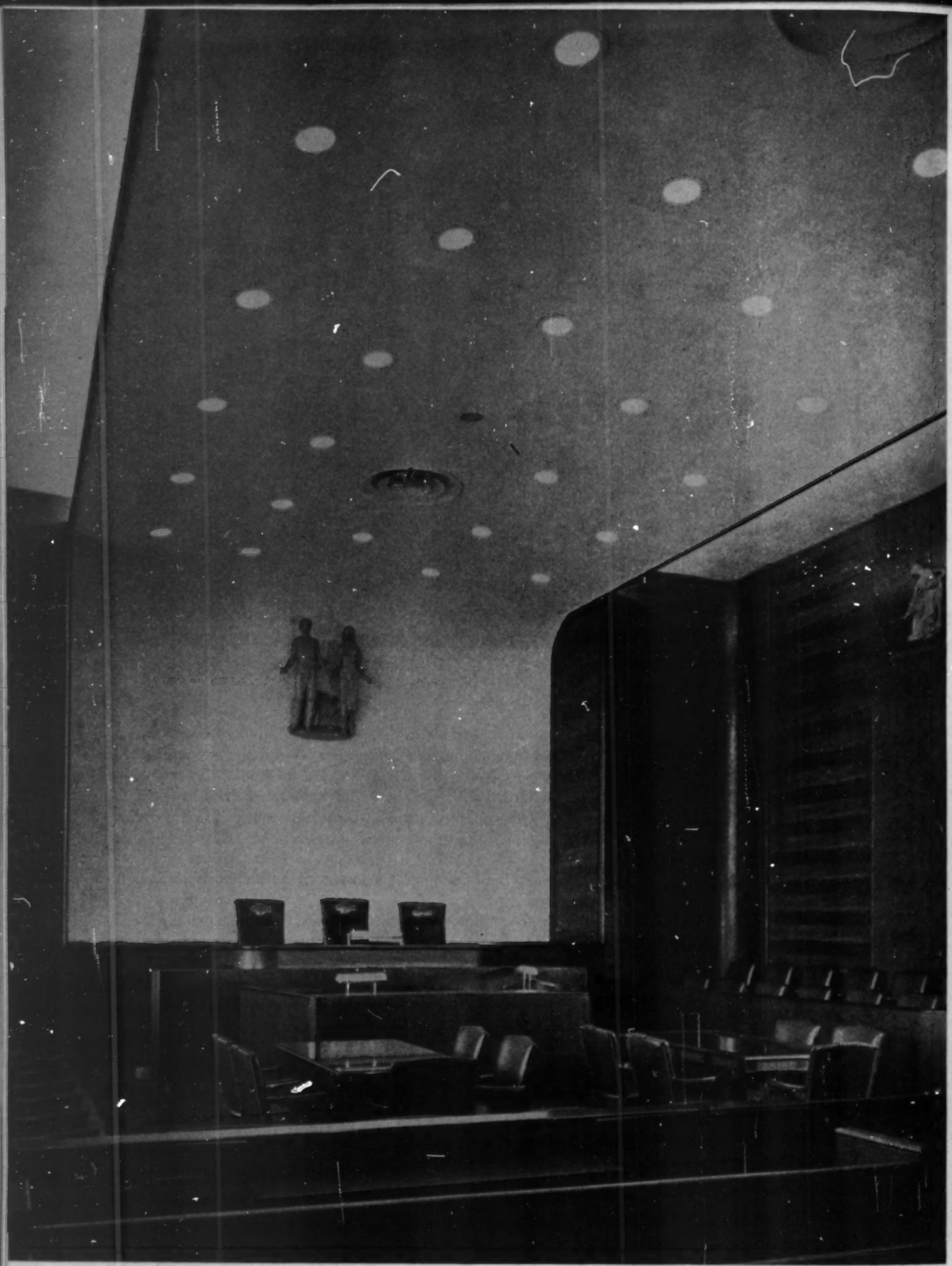
IN AN ASSIGNMENT for an important court house the architect finds himself in an active sector of the battle between traditionalism and modernism. A militant modernist might find much about a court house to sustain his arguments, but he would also find himself aligned against many who disagreed with him, and who were accustomed to speak their minds freely and eloquently. They might orate with considerable heat about the dignity and tradition of the law, and get around to stressing impressiveness as a basic function of a court building.

Whatever the situation might have been in this instance, the architects limited their own notes to these crisp comments:

"Studies were first made in the traditional Georgian architecture and later discarded in favor of a more modern approach for the following reasons:

"1. The Georgian treatment restricted the normal development of the plan due to the





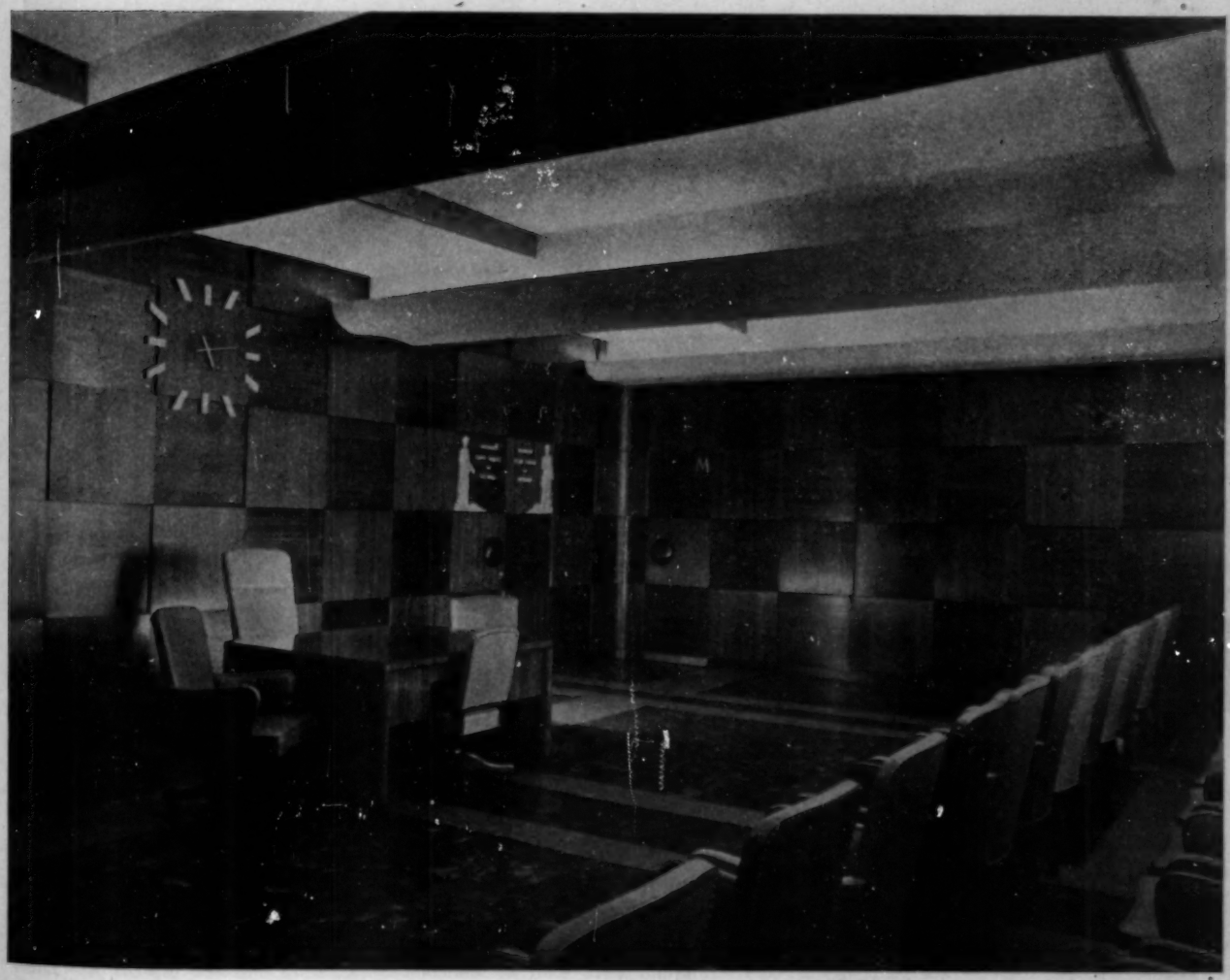
Court room No. 2, on the third floor, the "History of Mankind" Room, with wood carvings depicting significant events of history. Walls are of walnut burl with panels of claro walnut. Tan and brown floor, green leather chairs

divergence of the functions in the various parts of the building.

"2. The cost of maintenance of a Georgian building would undoubtedly have been considerably in excess of that of a less ornamental type.

"This latter argument in itself was considered of great importance, inasmuch as the county officials are constantly changing, and no one person is continuously responsible for maintenance.

"It was decided at the start to use permanent and beautiful materials, to reduce decoration to the minimum and, if possible, make that decoration of historical or legal importance. This resulted in the use of marble or wood slabs from floor to ceiling without mouldings, or projections difficult to clean. Where further artistic interest was required it was obtained by historical or legal quo-



Both the Commissioners' Hearing Room (above) on the second floor and the Grand Jury Room adjoining it (below) have walls of alternate strips (or squares) of figured and striped Brazilian rosewood. Floors of asphalt tile in tones of brown and rose

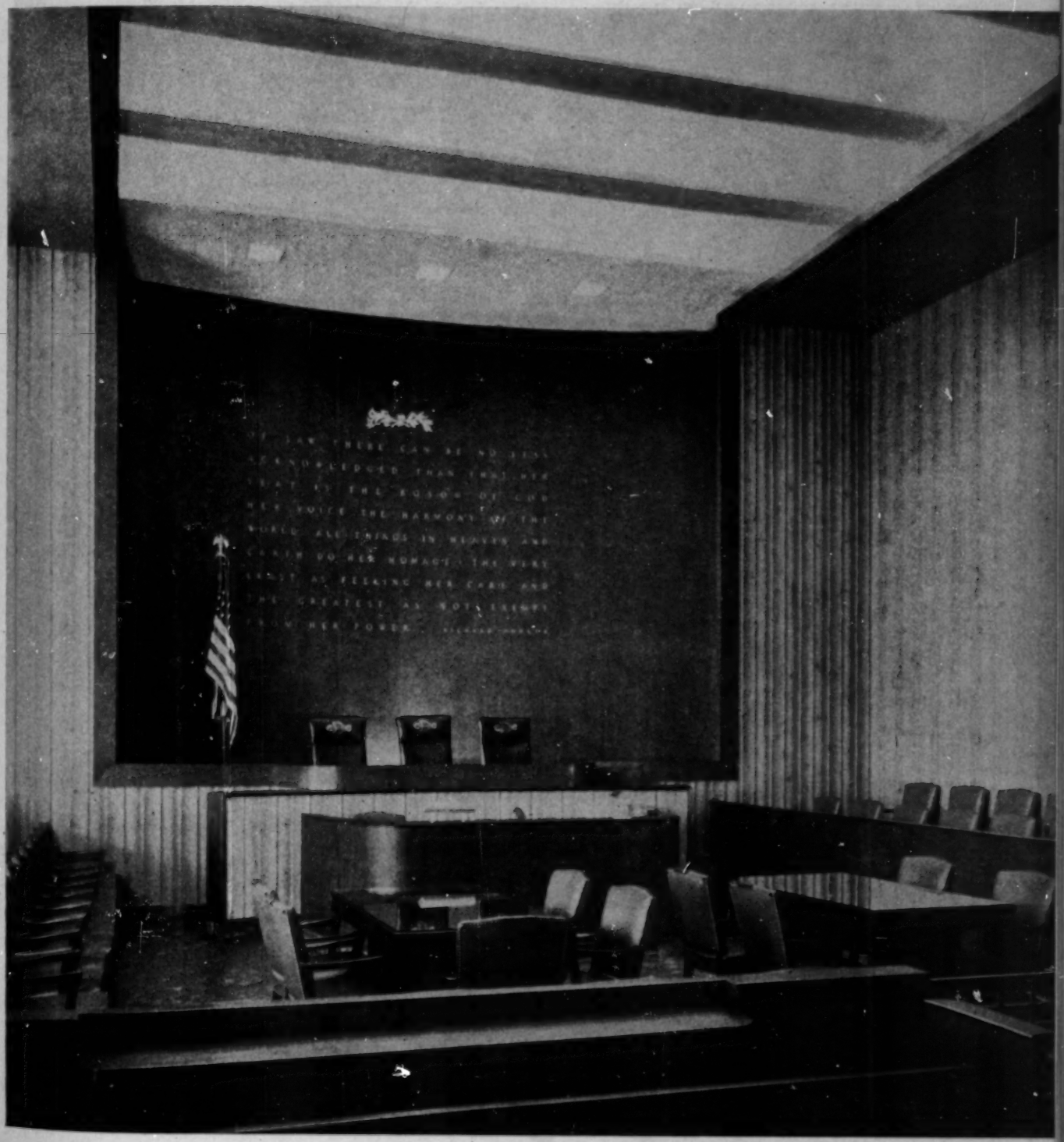
Court Room No. 3, third floor, has walls of natural finish, comb grain white oak, with walnut splines, soffit and trim. Acoustical ceiling vaults for lights. Court Room No. 4 (opposite page): walls of gray finished native knotty pine. Soffit, trim and back wall of redwood burl. Blue and tan asphalt tile floors

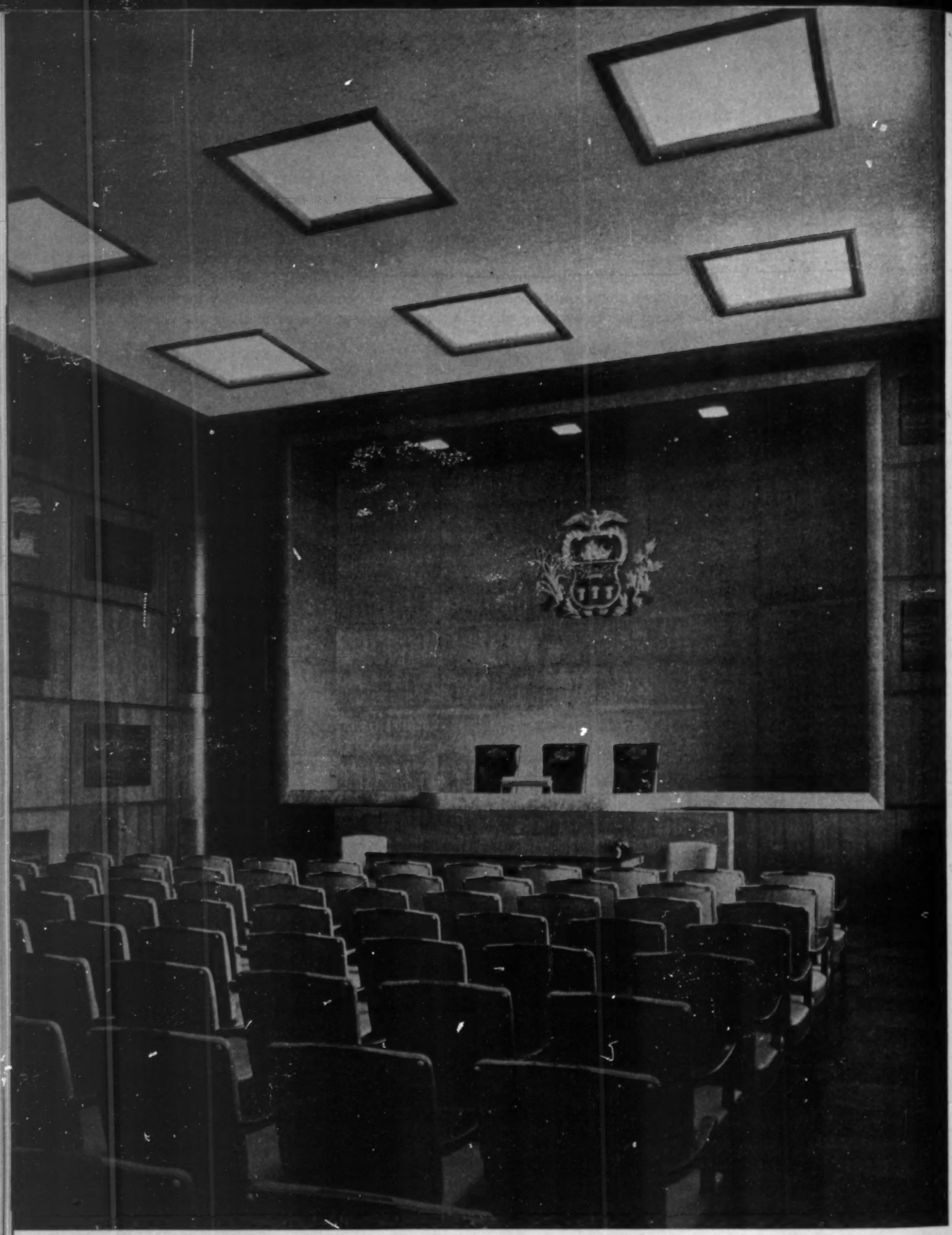
tations, or bronzes or wood carvings. This called for a great amount of research and careful detailing, but the final result has created immeasurable interest and pride among the citizens.

"The sculpture, wood and glass carvings were carried along at the same time the preliminary studies were made, and incorporated as a part of, and not as an addition to, the design."

The architects' notes made no mention of one major problem in this approach—the handling of some half dozen major court rooms and any number of similar spaces. Their success in keeping each room up to their standard, yet making each distinctive, is especially evident in the court room photographs given considerable display in these pages.

The front of the building enjoys a sweeping view of a park along the Susquehanna





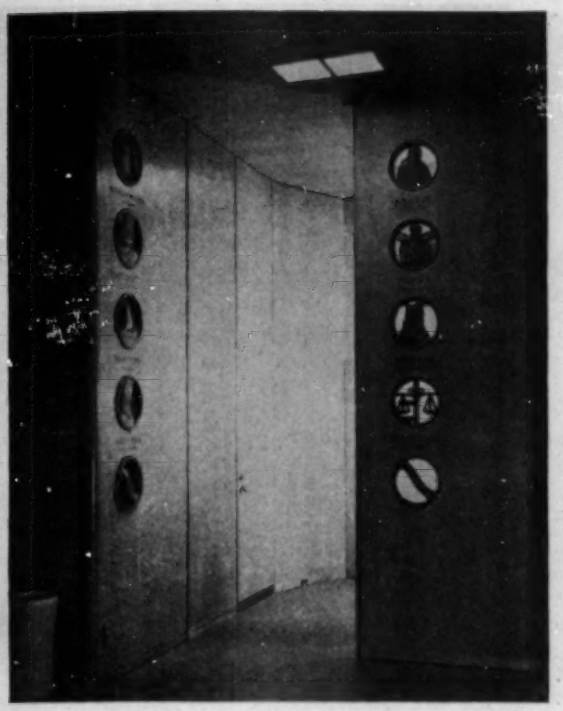
Court Room No. 5: walls of striped and figured Brazilian rosewood (light and dark brown) with Tamo (tan color) for the wall back of the bench and for trim. Law library, (opposite page) is done in comb grain oak woodwork in natural finish. Warm gray-green walls and ceiling beams. Floors of green and tan colors

River. To take maximum advantage of the view the building was set back 30 ft., and tied in with the park by a fountain, pool, and landscaping. The property is a quarter of a city block, 210 ft. square, with buildings across narrow alleys on two sides. Thus setbacks were necessary all around, for light and air on the alley sides, for landscaping on both street fronts. These conditions, together with interior requirements, resulted in a building of six stories, with the ground and first floors spread beyond the main section of the building to accommodate offices demanding a street location.

Principal court rooms were placed on the third and fifth floors, leaving the fourth between for jury rooms. These are directly accessible via private stairways from the court rooms, so that jurors can retire for deliberation without coming into con-

Fifth floor lobby (above) has cast glass screen partitioning in a blue-green tone, clear glass panels in doors to the law library. Floor is of black terrazzo

Court Room No. 1, the largest one in the Dauphin County Court House, has walls of striped mahogany with mahogany crotch figure and panels separated by maple splines. The soffits and the reveal at the judge's bench are of blistered maple. Light sources are concealed above skylight sash. Acoustical tile ceiling



Sigstedt's wood carvings, "the world's legal systems"

Reception room and library for judges' quarters

tact with the public. Judges also have direct access to the bench from their private offices, and private elevators to the street.

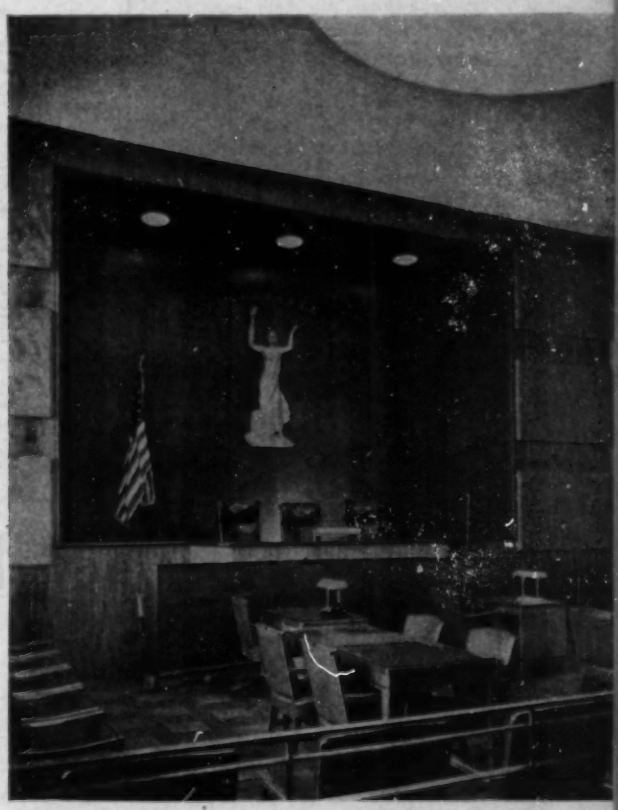
The building is heated with city steam, so a boiler room was not required. Air conditioning was installed for the top three floors, containing the court rooms and their dependances.

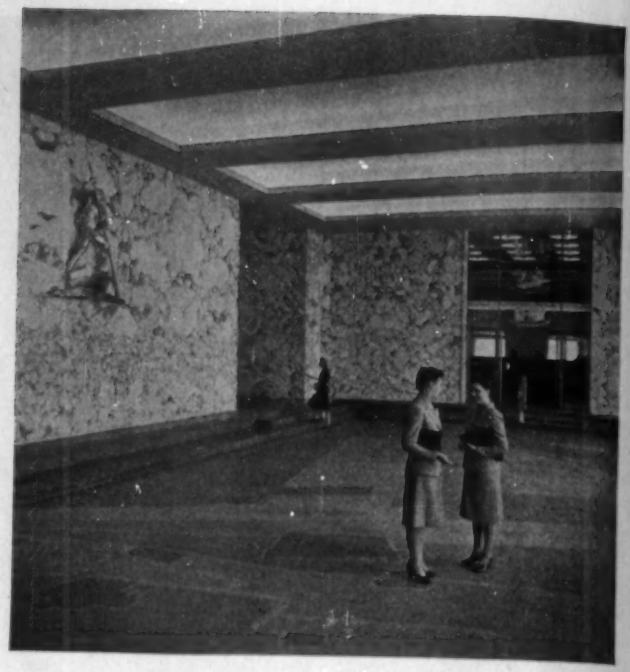
Lighting throughout is recessed or concealed, with the simple exception of six decorative ceiling fixtures in the largest court room.

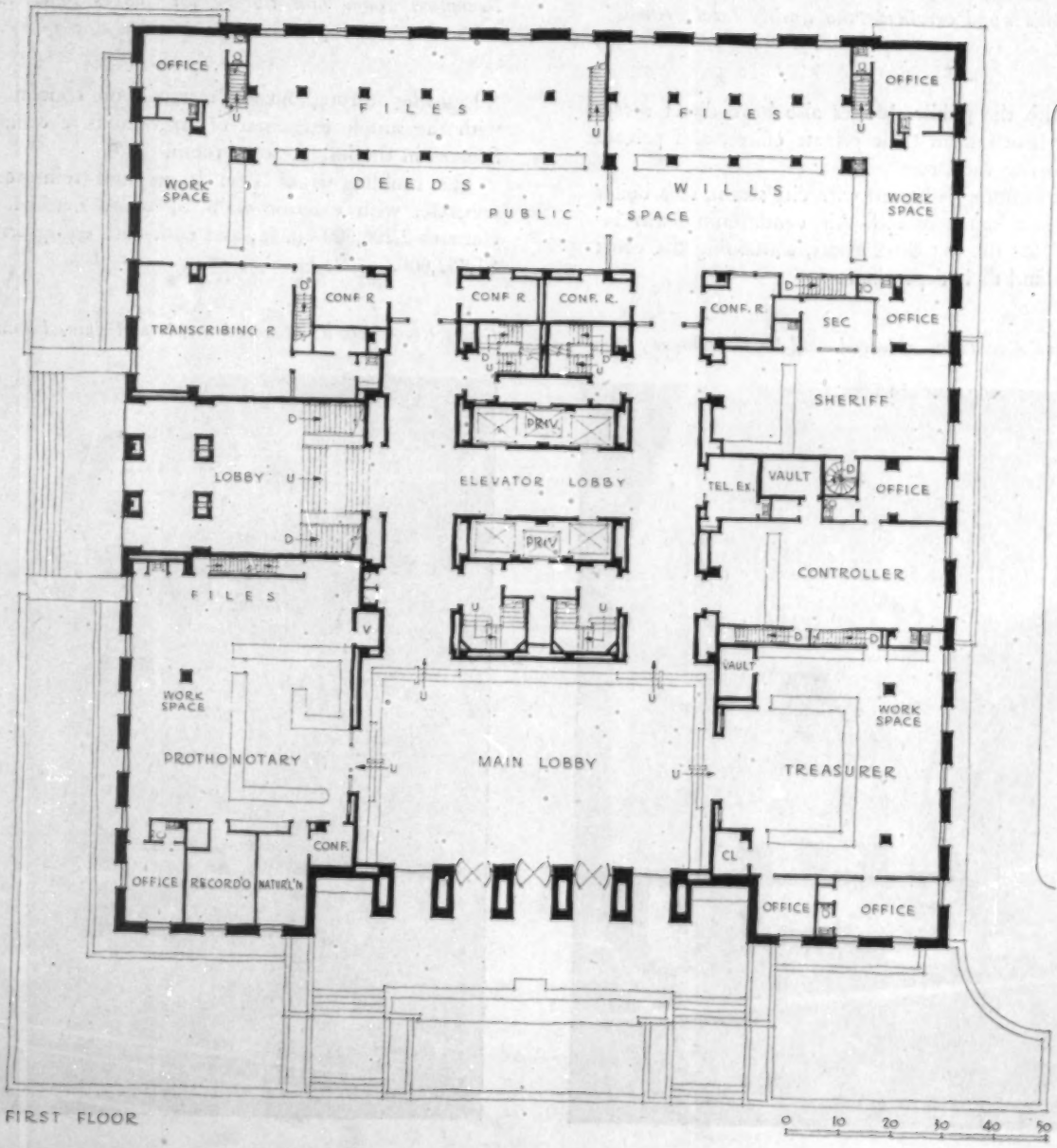
The building is of steel frame and reinforced concrete, with exterior walls of white marble. It contains 2,200,000 cu. ft., and cost, with equipment, $1,952,000.

Orphans' Court Room, in redwood burl, mahogany trim

Court Room No. 6; blistered maple and figured gum



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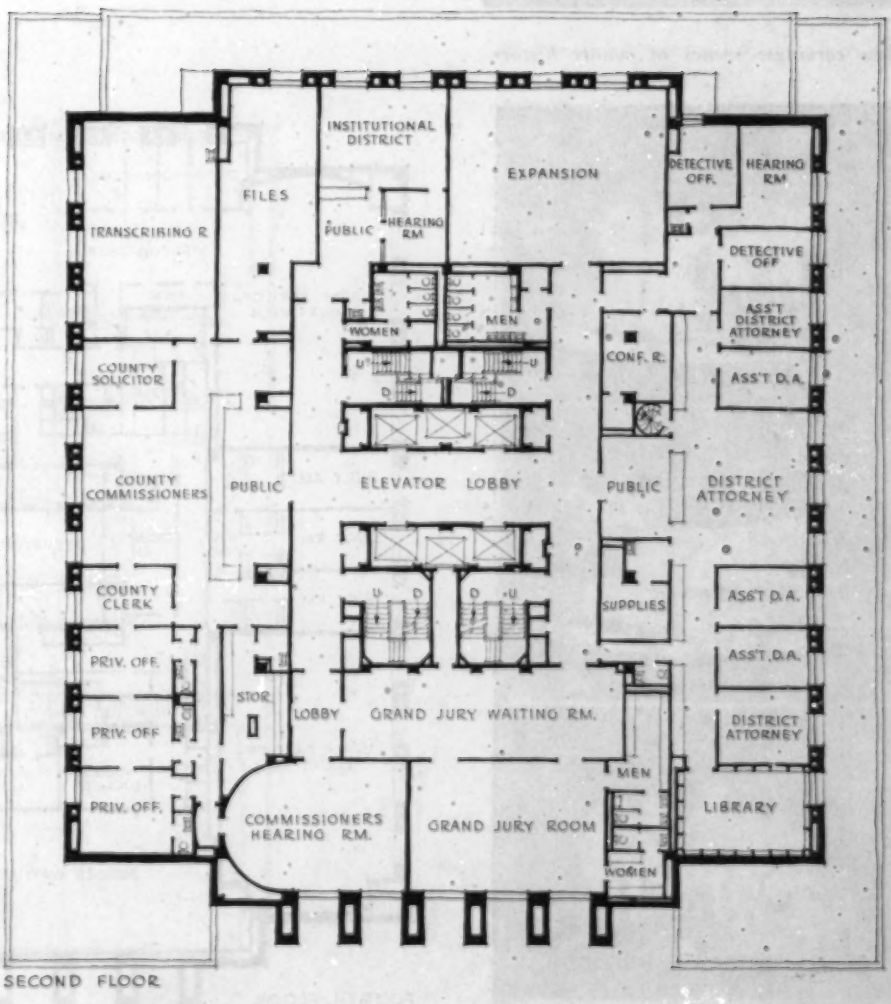
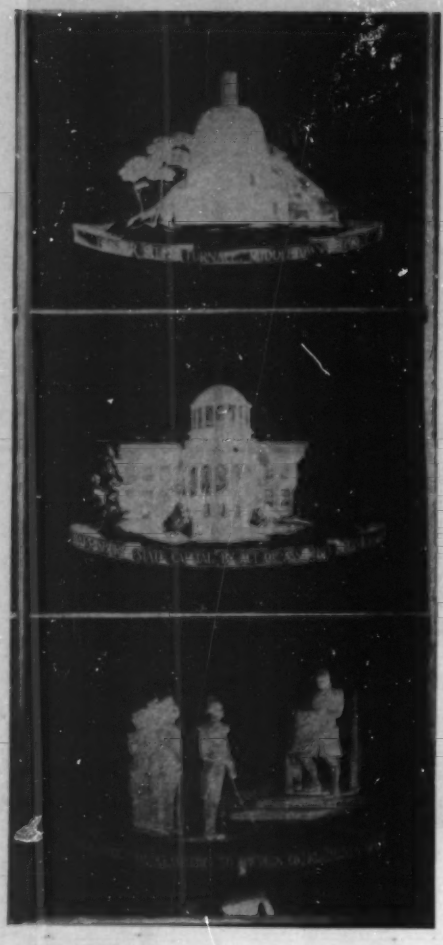
FIRST FLOOR

Above: attorneys' reading room, fourth floor rear. Light striped mahogany, with green carpet, marble fireplace

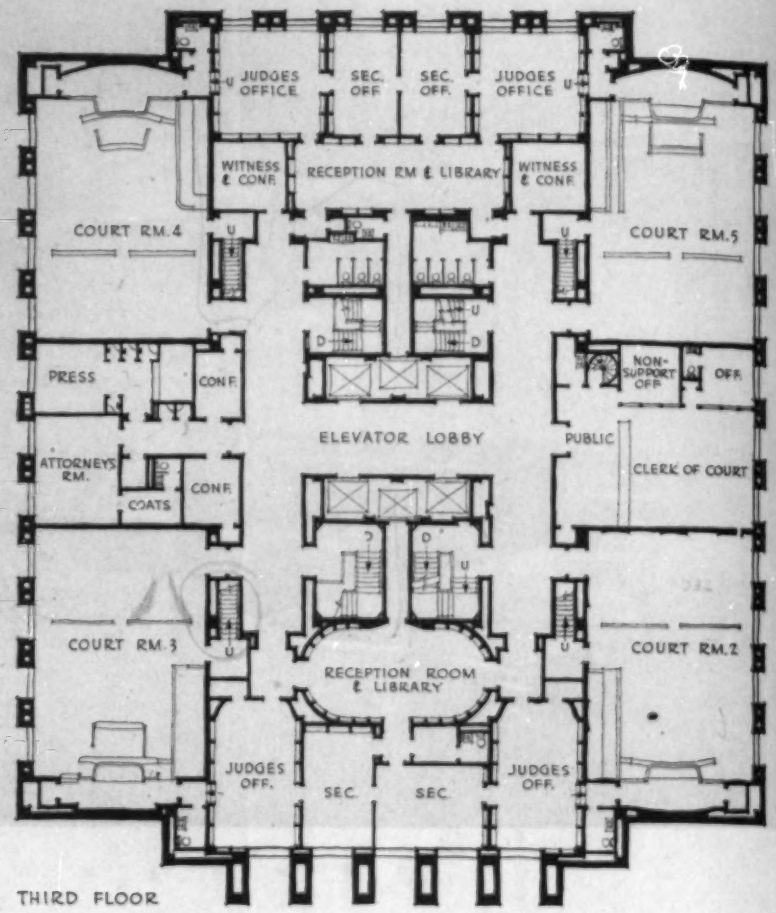
Opposite page, left: public area in wills and deeds office. Right: main lobby on first floor, on Front Street



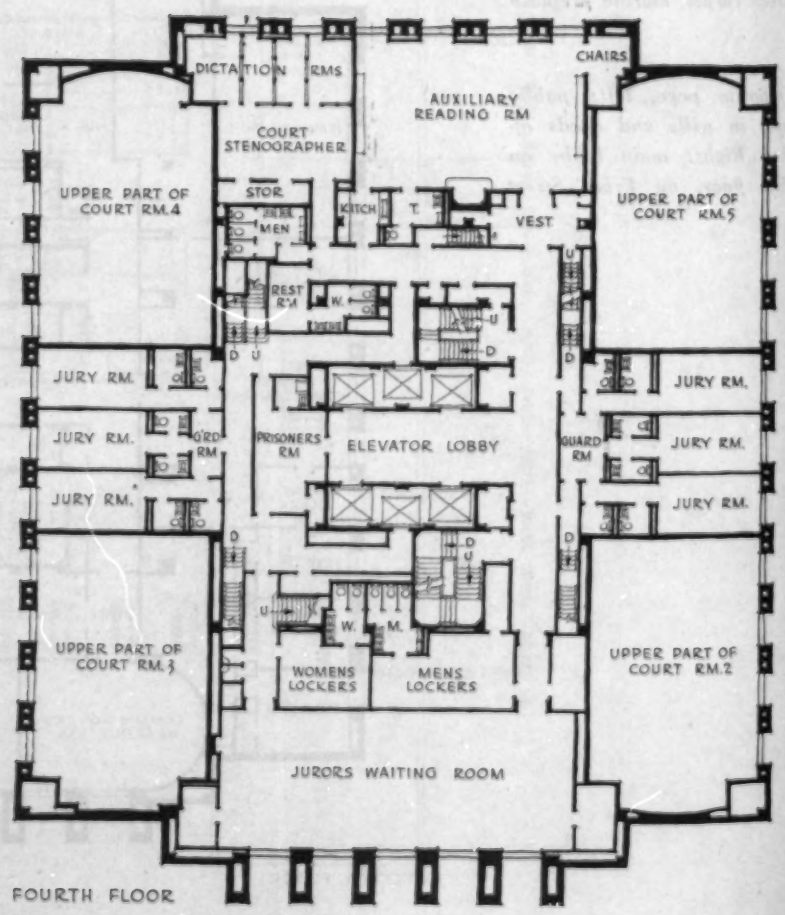
SECOND FLOOR



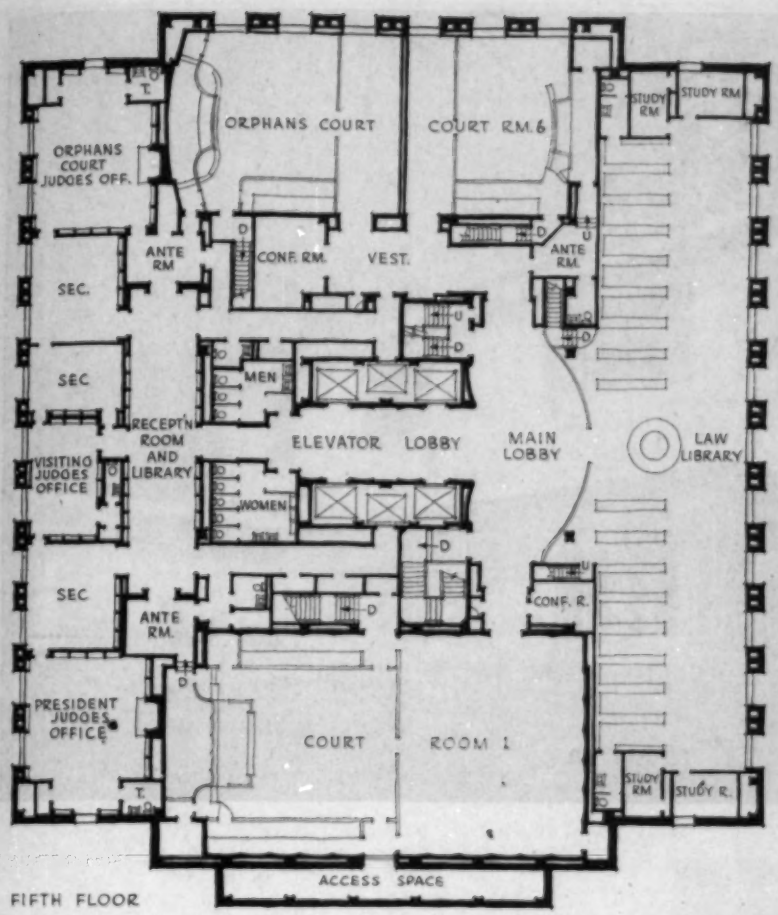
Glass carvings: scenes of county history



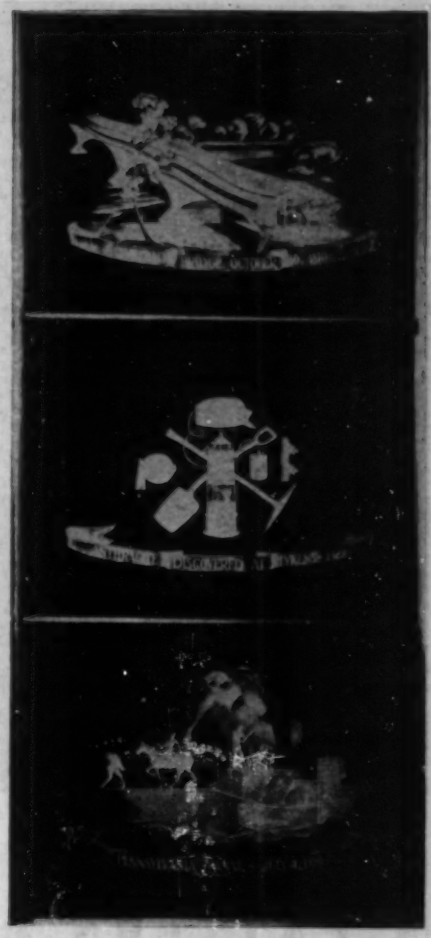
THIRD FLOOR



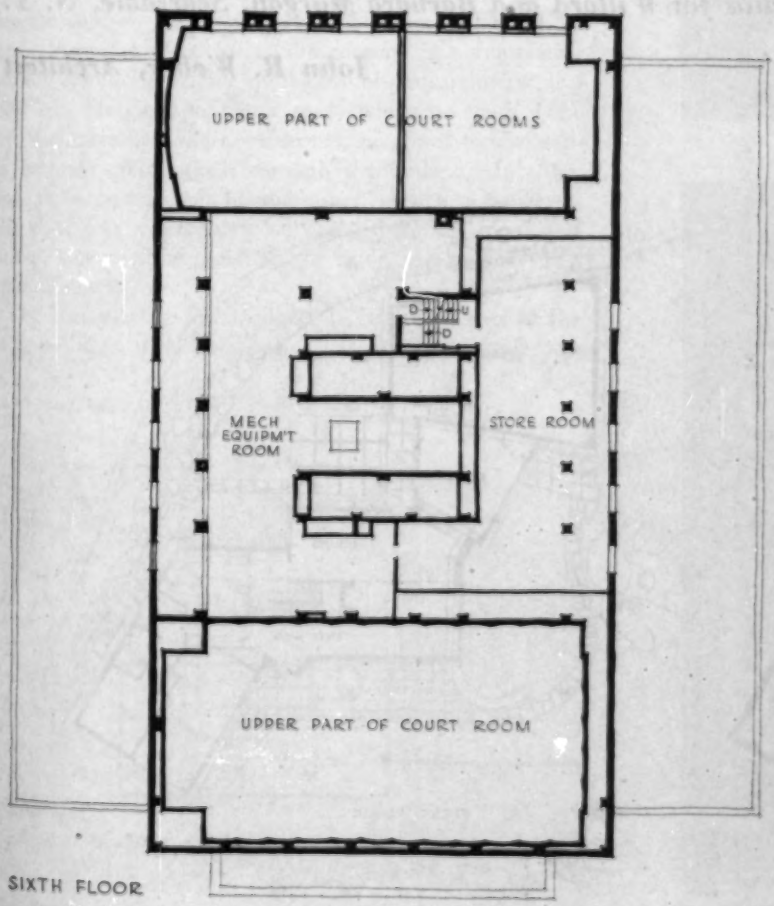
FOURTH FLOOR



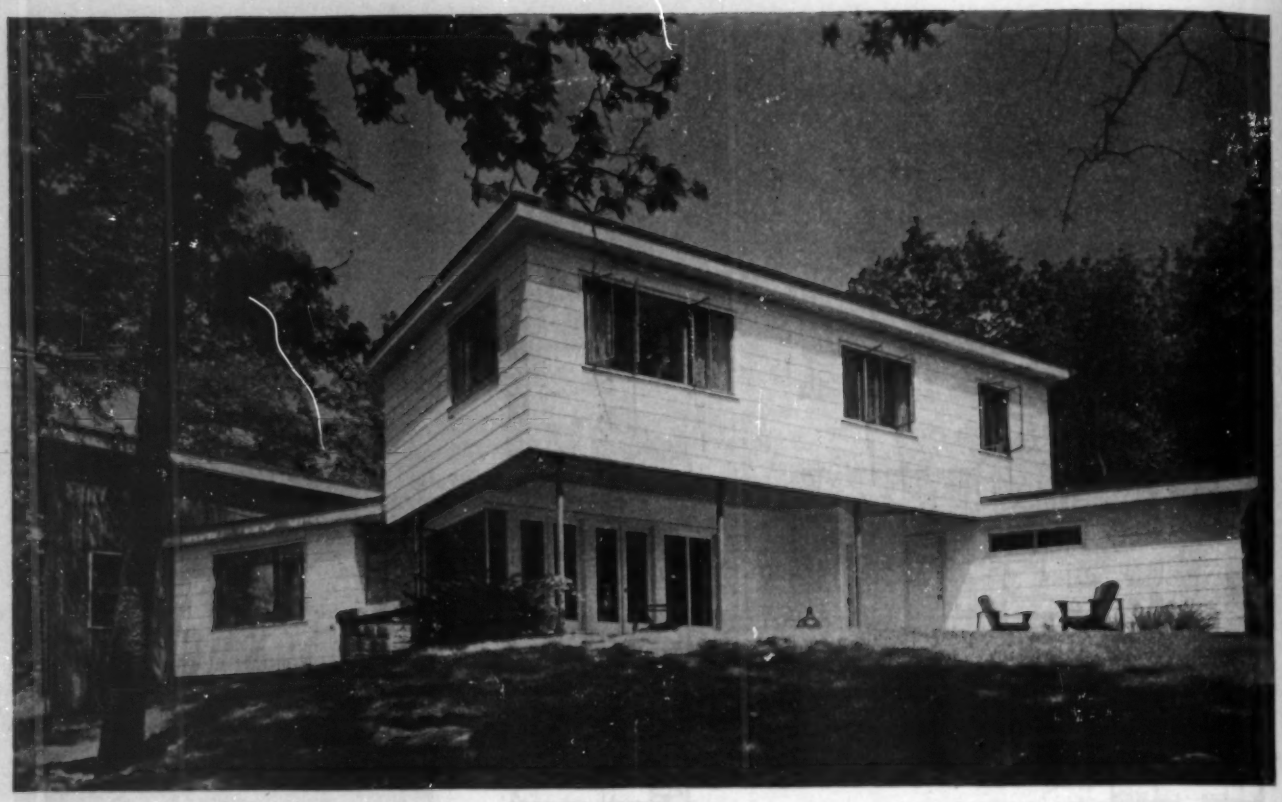
FIFTH FLOOR



Glass carvings are the work of Hugh Tyler



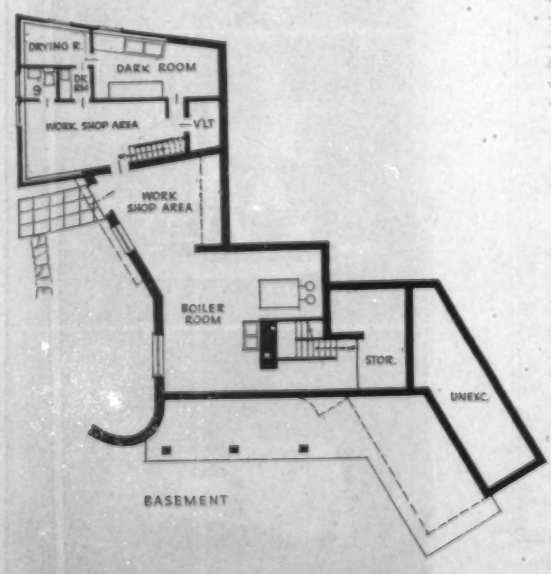
SIXTH FLOOR

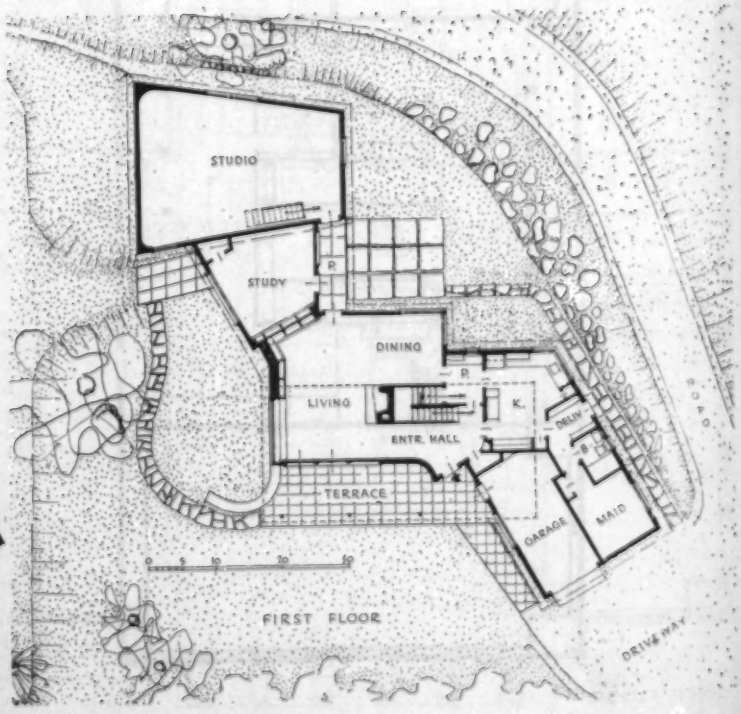


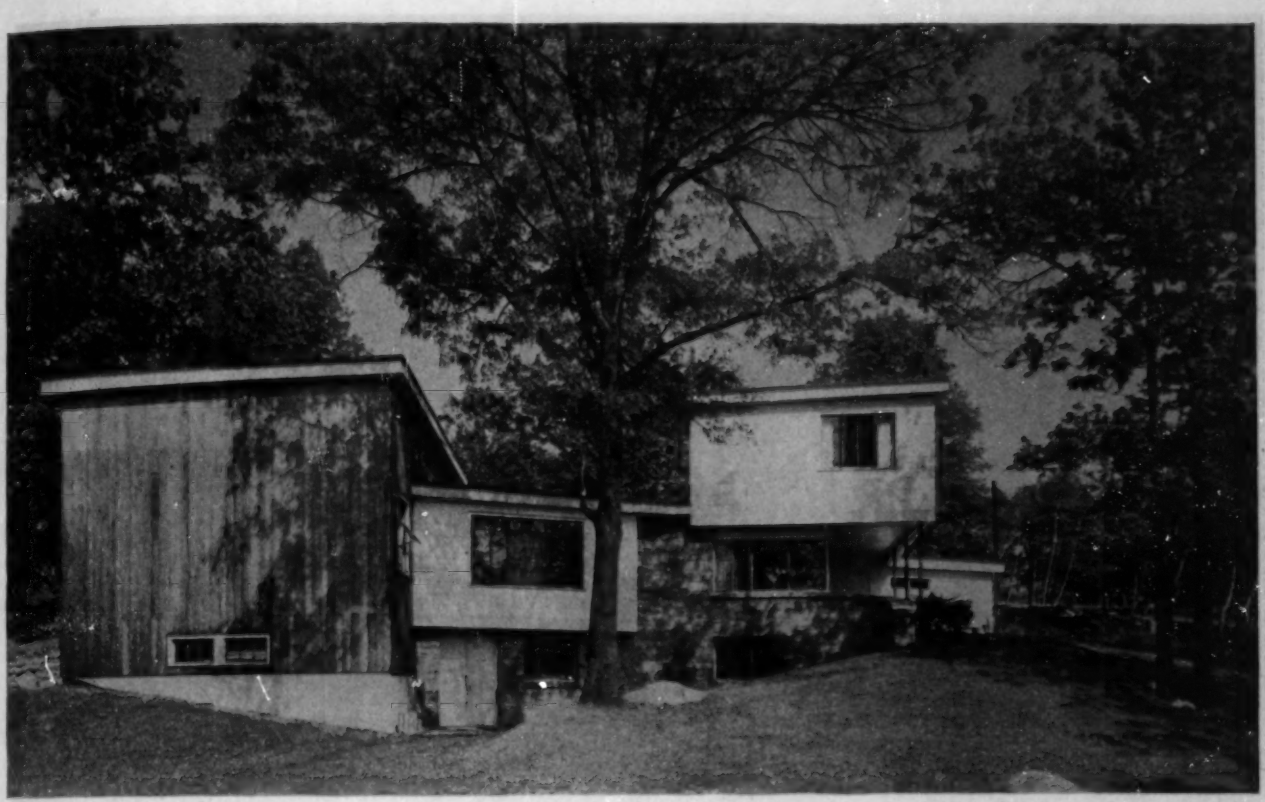
A PATTERN OF PLANES AND PURPOSES

Residence and Studios for Willard and Barbara Morgan, Scarsdale, N. Y.

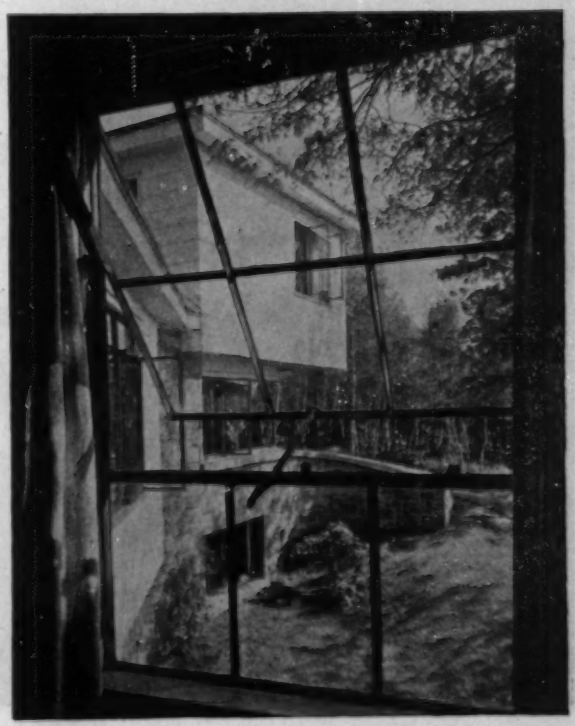
John R. Weber, Architect





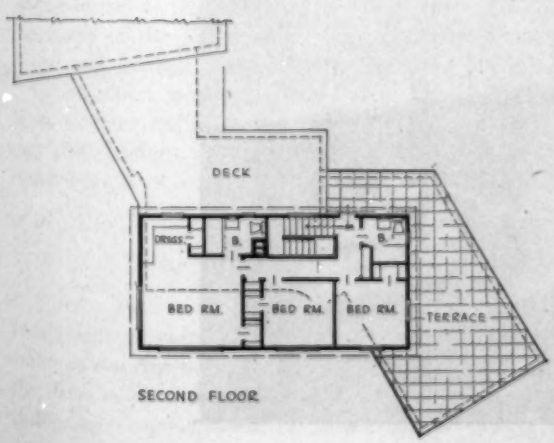


Rodney McCay Morgan photos



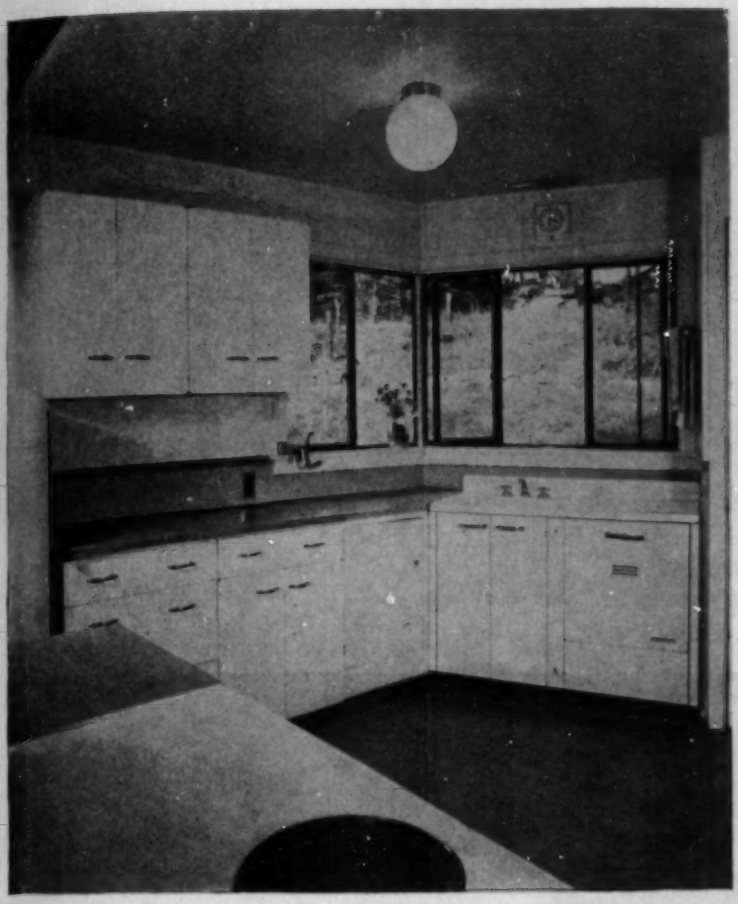
THIS interesting house resulted from the happy combination of two professional people, comprising the client, and the architect, none of whom had any preconceived styling ideas to confuse the development of a thoroughly logical plan. And the plan, for all its corners, is a completely natural resolution of the problems of requirements and site. Mr. Morgan specified a study where he could work with full privacy, where, moreover, he could receive callers without taking them through the house. And Mrs. Morgan, a professional photographer, needed a large studio, close to the necessary darkrooms, drying room and storage spaces. She also had the same requirement of a separate entrance.

The studio wing just manages to become a part of the same building with the house itself, with no inside pas-



SECOND FLOOR

The open feeling of the living-dining area, inherent in its size and plan, is enhanced by maximum glass areas on the front terrace and corner windows at rear



sage (on main floor) from house to either study or studio. A covered passage ties the three together and provides the separate entrances to working areas.

The residence portion represents a compact development of the central section. Living and dining areas combine in a large L; a free-standing fireplace (free-standing in the living room view) joins with an enclosed stair well to provide the only partitioning required for this area.

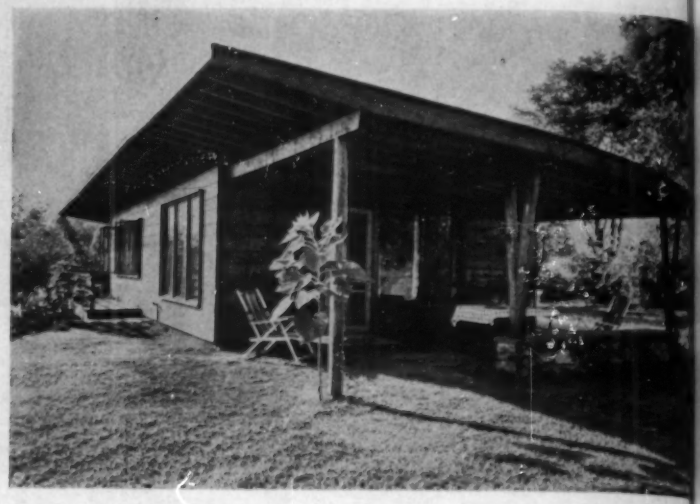
From the central section a one-story wing takes a natural angle toward the driveway turn-around, this portion including garage, maid's room and bath, and service entrance.

The shape of the combination was further governed by the slope of the lot, and by some old trees which were saved and made a part of the landscaping plan.

Construction is mostly frame, with one wall of stone. Most exterior walls are finished with asbestos shingle siding, the photographic studio being covered with vertical cedar boards.

Principal requirement in the photographic studio was space—width in the staging end, depth in the other direction. Thus the shape of the studio follows its natural demands. A high ceiling was another need, to permit proper camera angles

"ONE-ROOM" HOUSE PLANNED FOR THE COMFORTS OF LIFE



Rodney McCay Morgan photos

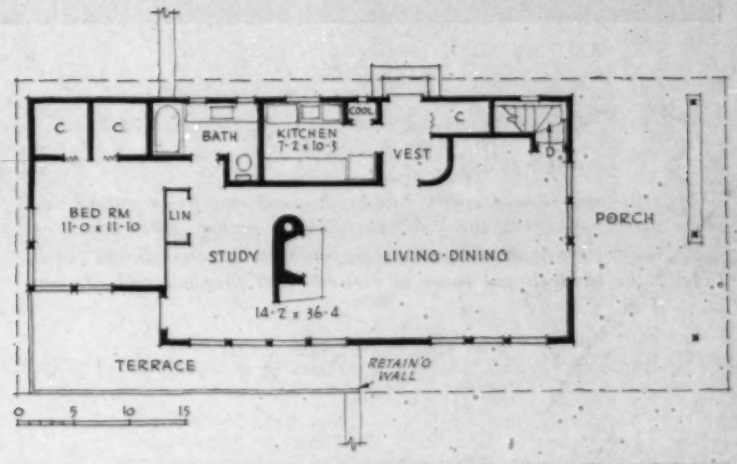
IN BUILDING this house for himself, the architect formulated this simple program: a minimum house for a couple without children, yet spacious, and complete in cooking, heating, and plumbing facilities. The result is a "one-room" house, divided only by a free-standing fireplace between living room and study, and by a linen closet between study and bedroom. Bathroom and kitchen are partitioned off, but the bathroom has the only interior door in the house.

The site had only a four-foot slope over the full length of the building, but by filling a little at one end and excavating slightly at the other, it was possible to raise the bedroom end one floor level above the ground, while keeping the living room right at ground level. The elevation of the bedroom end provided for a car port at basement level.

Residence in Scarsdale, N. Y.

Planned for his own home by

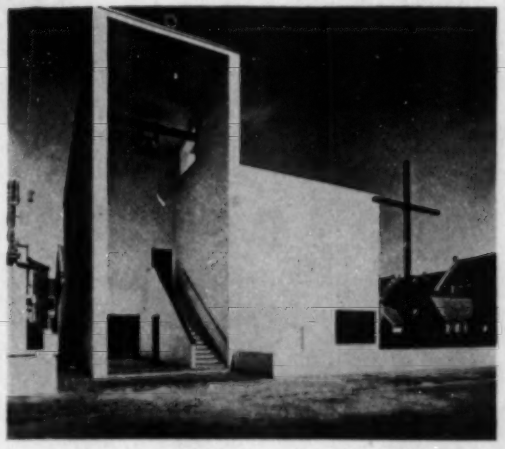
John R. Weber, Architect



Exterior is of pine novelty siding, with V joints. Construction is frame, insulated throughout with aluminum foil. Inside walls are of plywood, some painted, some rifted plywood showing the grain

Top, right: view of the study, looking past the free-standing fireplace toward terrace door. Right: kitchen is complete with electric range, refrigerator, cooler closet and dishwasher-sink, also wall and base cabinets, in a "two-wall" plan

Above: view of living space, looking toward the free-standing fireplace which serves as the only partitioning cutting off study area. Left: dining room end of same space opening to covered dining porch. Below: the living-dining space as viewed from fireplace end of room



CHURCHES

Architectural Record's Building Types Study Number 93

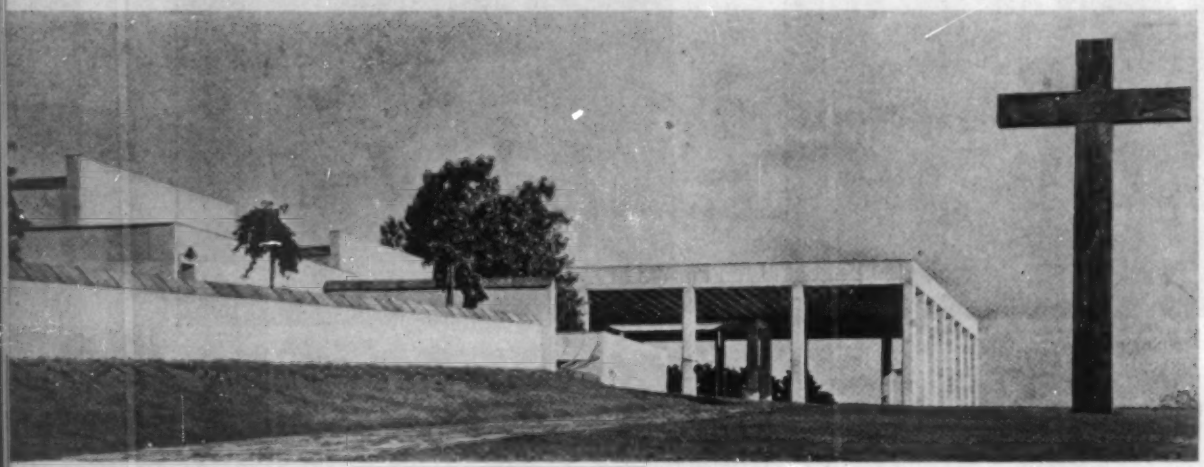
THAT CHURCH BUILDINGS represent a most active field of postwar designing is made clear in Dodge V-Day reports, which currently show churches leading most other building types in numbers of projects. That they will be better designed is the perennial hope. That modernism suddenly will gain any general acceptance is by no means indicated. That progress toward "cleaner" design is being registered is about as far as change seems to go. In any case, it is clear that churches, like schools, are expanding buildings and facilities for many new community responsibilities. As V-Day comes ever closer, the RECORD this month adds churches to its series of collaborative features; much of this material will also reach church management groups in *Church Property Administration* and *Church Management*.

PICTURE, SENTIMENT, AND SYMBOL ..... *by Joseph Hudnut*
ARCHITECTURE AND RELIGIOUS TRADITION ..... *by Charles D. Maginnis, F.A.I.A.*
SOME TRENDS IN CHURCH DESIGN ..... *by Brother Cajetan Baumann, O.F.M.*
NOTES ON POSTWAR SYNAGOGUE DESIGN ..... *by Ben C. Bloch*
REQUIREMENTS FOR CHURCH ILLUMINATION ..... *by Edward Rambusch, I.E.*
First Reformed Presbyterian Church, *Los Angeles, Cal.* ..... *Walter L. Reichardt, Architect*
Church of St. Francis of Assisi, *Rochester, Minn.* ..... *Hills, Gilbertson & Hayes, Architects*
Kirkridge Chapel, *Delaware Water Gap, Pa.* ..... *Paul Beidler, Architect*
Christian Reformed Church, *Pasadena, Cal.* ..... *Whitney R. Smith, Architect*
Postwar Plan for the Asbury-First Methodist Church, *Rochester, N. Y.* ..... *Wenner and Fink, Arch.*
Church and Community Center, *Hillsboro, Oregon* ..... *Sutton, Whitney & Aandahl, Architects*
Four Postwar Churches for the South ..... *Barber & McMurry, Architects*
Two Catholic Churches, Prewar and Postwar ..... *Henry V. Murphy, Architect*
Bahá'í Temple, *Wilmette, Ill.* ..... *Louis J. Bourgeois, Architect*

PICTURE, SENTIMENT, AND SYMBOL

Some Comments on Modern Church Architecture

By Joseph Hudnut



Holy Cross Chapel, Stockholm, Sweden. E. Gunnar Asplund, architect

When at a tender age I began the practice of architecture I accepted, being in those days without conscience, a number of commissions for churches. I built more than a dozen. I call this my Early Christian Period.

At first I built stone churches in the Gothic style. As I look back upon these I find them more Goodhue than Gothic: the point is that I believed them to be Gothic. I held that faith not merely because I shared at that time the generous illusions of the Gothic Revivalists but also because I was very young. *Folie de jeunesse.* I believed that Goodhue was carrying forward the tradition of Canterbury; and indeed he was doing so, but in a manner which I had not as yet understood.

For several years the beautiful little temples of Goodhue and Cram reappeared, somewhat faded to be sure, on my drafting board and were retranslated into three-dimensional pictures in stone, complete with the lush ivy which cloaked the Goodhue buttresses and the birds which at his invitation quaintly nested in the towers. I could never manage his romantic old graveyards. There were never any rude forefathers picturesquely to moulder there.

I might have gone on indefinitely building these pictures, had it not been for my clients. My clients were, I am afraid, somewhat indifferent to the felicities of this, my private Heaven, being conscious of some useful task to be performed here and now, and they meant to perform that task even if it should require some changes in that historical pattern which had taken so firm a possession of my imagination. They wanted, for example, an expansion of the educational and social facilities for which the Gothic tradition offered no precedent. They wanted modernizations in planning and simplifications in ceremonials which threw my composition completely out of balance; and their disinclination to pay for masonry vaulting was positive in the extreme. I blamed, not the Gothic tradition or my own misconceptions of it, but the intransigeance of my clients for the disasters which followed.

I have confessed my sin, not so much to obtain absolution, but to point a moral. I was not, I fear, the only church architect to design pictures rather than buildings. I hope that no one will think that I admire less sincerely the form and the tradition of Gothic architecture—and yet I am not sure but what the program of my clients might have formed a better foundation for my art. At any rate, I am sure that it would have formed a better foundation than that excess of pictorialism which was the almost universal anodyne of architects in that day.

It should be understood that I am thinking not so much of the habit of seeing buildings pictorially as of the habit of designing them pictorially. As long as there are Cook's Tours and castles on the Rhine, people will look for and find picturesque charm in buildings; and why not in buildings near to our homes? People "of good taste and an Anglican inheritance," for example, are sure to desire such qualities in a country church. They will take pleasure in the scenic effect of a rambling parish house set against the bolder masses of tower and transept, in a spire rising over great trees, in splashes of light on textured masonry. Such a manner of seeing does not necessarily prohibit an apprehension of the more austere and sculptural values of buildings—of those "patterns of solid form set in space with space around"—provided of course that the architect

has created such values and made them accessible.

The trouble is that many architects, at any rate at the time when I was an architect, did forget to create such values. The completed picture leaped into our minds almost before the first line had been put on paper and continued its subconscious tyranny over plan and structure. No theme of architecture, unless it be the skyscraper, was so vulnerable to that tyranny. We thought in pictures, remembering the gray abbeys of Picardy and La Beauce, and built our churches out of the pages of our sketchbooks.

In that way we often sacrificed not only the energies of three-dimensional pattern but also all the vitality and command which buildings have when their use and social serviceability are firmly established in their outward shapes. I do not think that churches are an exception to that principle, so fundamental in all architecture. Churches, in spite of the slow changes in ceremonial usages, can be alienated from their environment as readily as any other buildings by qualities of design. The tower of Norwich rising over a Nebraska prairie, a fragment of Aquitaine under the elevated railway: these do not (I hope) clarify the relationship of the Church to contemporary society. Enjoy them as pictures if you will, but let us not call them architecture.

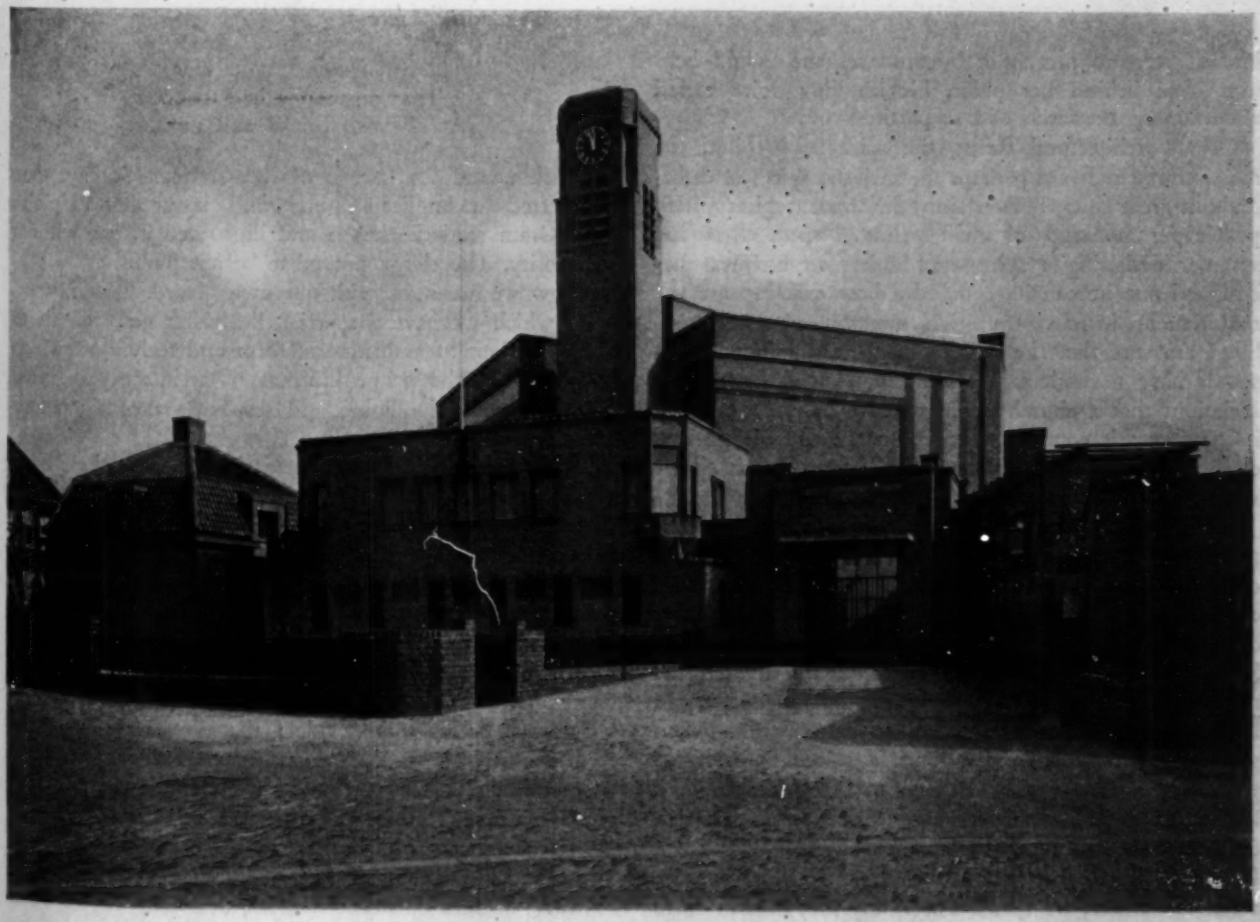
Incidentally, this tendency to pictorialism encourages an insidious type of merchant-architecture. I know an architect, successful in the practice of church building, who can develop a dozen pictures from a plan common to them all. He enchants building committees by dressing up his project as if it were a paper doll, or a congressman running for re-election, in a succession of costumes, Georgian, Lombard, and Provençal; and if by chance your taste is for the modern, the heterodox fellow will at no extra cost offer you his wares trimmed in cantilevers and corner windows. I am constantly surprised by the number of styles in which he can be insincere.

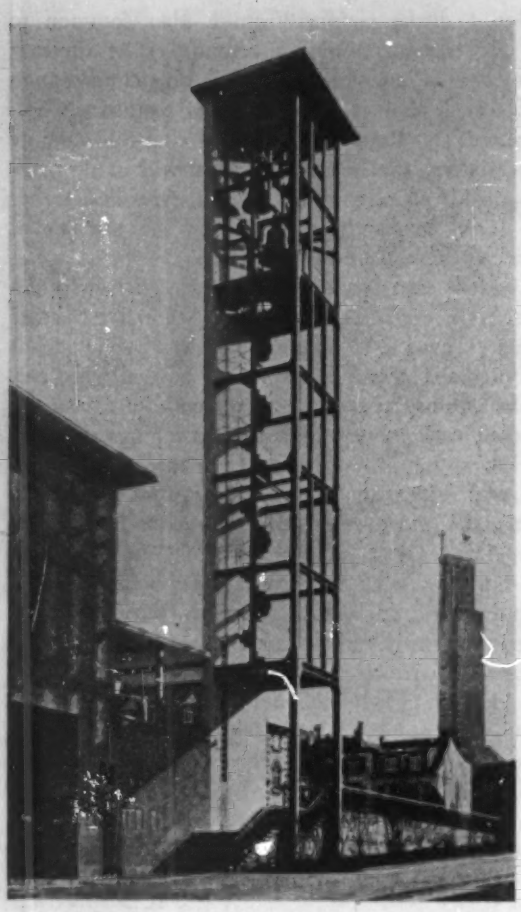
I have seldom seen a church which was pictorially designed which did not suffer also from an excessive tincture of sentiment. There is a language of form by no means doctrinal in nature which has come to have a wide currency in this country, a language made up of architectural elements used without respect to their meanings as architecture. That awkward buttress placed where no buttress is needed with intent to give an air of rural ingenuousness, the turret through which the lone sexton climbs into the belfry (the electrical machinery being out of order), craftsmanship expensively homespun and windows quaintly paned: these are splinters of romance too blurred by associations to play a part in an architectural ensemble. We cannot see them objectively.

I know a woman who, having seen in Normandy a massive pillar of stone, insists on sitting behind one in Woonsocket, New Hampshire. She is firmly persuaded that there were no sermons in the Middle Ages (the best argument I have heard for mediaevalism) yet if Abelard

Christian Science Church at The Hague, Holland. H. P. Berlage, architect

Courtesy Museum of Modern Art





St. Johannes Kirche, Basle, Switzerland.
K. Egender and Ernst Burckhardt, architects

himself were to preach in Woonsocket she would hear him from behind her pillar, his kindling voice tossed about among the facets of a sexpartite vault.

Of all architectural forms, the spire is, I think, the most sentimental: not perhaps the majestic spires of cathedrals in great cities, but certainly the smaller spires which people our thousands of smaller cities. I spent all of one summer designing a spire—and unless an architect has designed one he can have no idea how exacting are the requirements in mass, transition, shadow and silhouette—but I am sure that the citizens of the town in which it stands have never looked at it. They know through associations that a church ought to have a spire; they *feel* its presence; it comforts them with the knowledge that everything has been done properly. Perhaps that is all we should expect of a spire.

There are architectural clichés as well as verbal ones: preserved sentimentalities which become the small change of church design like the thousand and one pietisms of ecclesiastical conversation. These are so familiar that we build them into our churches almost without seeing them. When I was a boy my mother frequently invited the minister for dinner after the morning service. She would load the table with good things to eat—a goose when geese were in season and a roast, a spiced ham, fruits, vegetables, and sweets—and then Dr. MacConochie, folding his hands across his generous waistcoat would say, in the same voice in which the raven spoke to Edgar Allen Poe, "Oh, Lord, for these few morsels of which we are about to partake, we thank Thee. May they sustain us to the evening repast. Amen."

"Few morsels!" my mother would say afterwards. "Few morsels! He ate a whole jar of my best crabapple jelly."

My mother did not understand that *few morsels* and *evening repast* were stylistic elements wholly devoid of contemporaneousness. They were used in precisely the same sense as the homely trimmings on the church built for Dr. MacConachie in our Michigan town by an expensive Chicago architect. It took the good Presbyterians thirty years to pay the mortgage on that "humble edifice."

Picture and sentiment, even when used in large doses, seldom destroy completely an architectural pattern. Symbolism, however, is another matter. I mean, of course, an excessive use of symbols and especially the tendency to discover symbolic meanings in constructed forms.

There is a kind of architectural as well as ecclesiastical obscurantism and these sometimes get so mixed up together as completely to defeat all apprehension of structural or spatial pattern. The Church speaks to us in symbols and has, of course, every need of doing so, and yet I could sometimes wish that these might be used with a greater understanding of the equally evocative language of architecture. There is a sense in which a church building is itself a symbol, one of its functions being to play a part in ceremonial, but I cannot think that this circumstance justifies all that is implied by "doctrinal design."

We architects and not the clergy are to blame for the notion of architectural style as symbol. We are prone to evangelize our clients, to indoctrinate them in some architectural creed. We tell them unblushingly what is and what is not Christian architecture—as if it were not *their* business to tell *us*.

As I remember it, Pugin was the first architect to undertake the education of the Church: the Roman Church Who . . . never knew

> Till Mr. Pugin taught Her
> That orthodoxy had to do
> At all with bricks and mortar.

Ruskin, and his friends of the Camden Society, then converted the Anglican Church, and on our shores Upjohn and Cram read the lesson and illustrated it, not without virtuosity. The clergy proved to be apt pupils.

Now we are hoist with our own petard. That instruction which we gave the priest, the priest now repeats to us. Questions of architectural form and technique, which ought to be the prime business of architects, are lifted into the field of religion and resolved by considerations wholly alien to architecture.

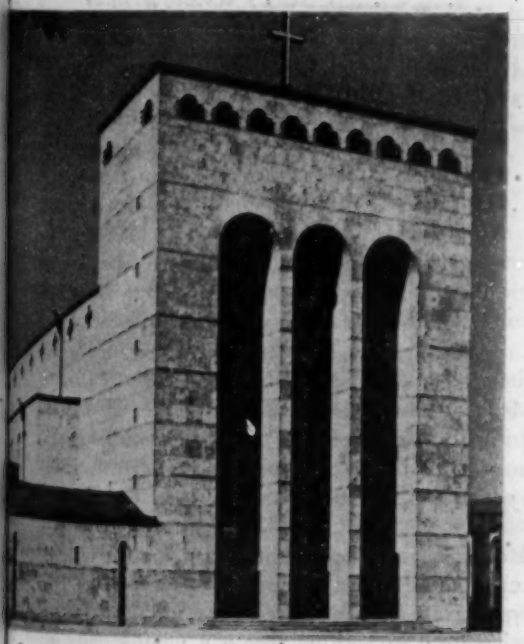
When I last visited the Cathedral of St. John the Divine I asked one of the young men attached to that cathedral to explain the purpose of the transept, then under construction. He said in reply that the transept would pull into harmony the existing nave and sanctuary (a striking example of our renewed belief in miracles) and would also give the cathedral plan the shape of the cross, a symbol which by its permanence and grandeur would confirm the faith of thousands.

Now it seems quite evident that these two purposes, either of which would obviously justify the expenditure of a million or two of charitable dollars, have very little to do with each other. The first is architectural in intent. It is concerned with relations in space and in mass and with an objective, or formal, unity. The second is pure spirit. The relation between them, that is to say between

architecture and symbol, is not a necessary one. One could exist without the other, surely. It should be possible to disentangle them.

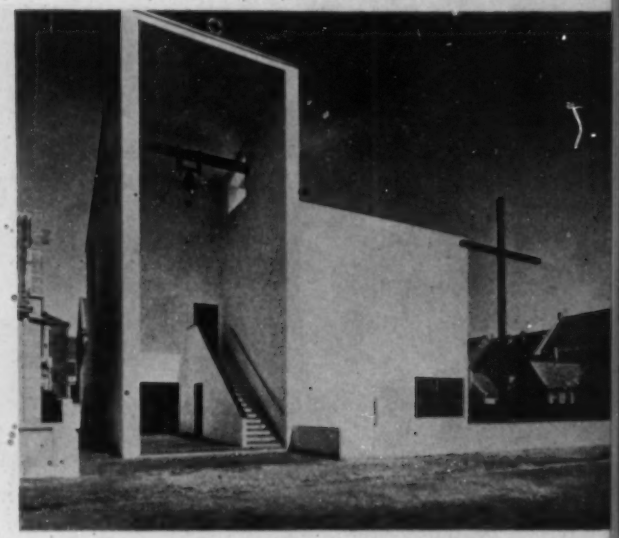
You cannot argue with symbols. They find their way to our hearts immediately or not at all. Suppose, for example, I should crown the rock of Morningside with a swastika of giant size. No architecture, I think, would make you love it. You would destroy it. I might tell you that its proportions are exquisite, that its form and rhythms invite you to the most abiding of contemplative pleasures. You would destroy it just the same. My dear sir, my swastika is skillfully made of priceless materials: of chrysoberyl, of fine gold, of the very best creamery butter. To hell with it, you say. Sir, all the scholars of Columbia University have conjoined to make my swastika the most perfect exemplar of Moresque art. Smash it, and smash it quickly.

No architecture can protect a symbol; nor is there any symbol which owes its life to architecture—still less to any particular style of architecture. If we love a symbol we will call it beautiful; if we hate it, no art can make it less hateful. The soldiers of Cromwell wept with joy as the lovely windows of Litchfield crashed under the blows of their vengeful lances; and Ferdinand, Most Catholic King of Spain, did not perceive until he had destroyed half of it, that the Alhambra was harmoniously built and full of grace.



Frauenfriedenskirche, Frankfurt-am-Main.
Hans Herkommer, architect

When we build again, the war being ended, we will build modern churches. We will take advantage here, as in every other field, of the practical advantages offered by new materials and new methods of construction. We will make full use of the new planning techniques, of new lighting and acoustics, of the marvelous inventions in mechanical installations that are promised us. We will deny to the Church no serviceable instrument whether it



Chapel at Nordernen, Germany.
Dominikus Bohm, architect

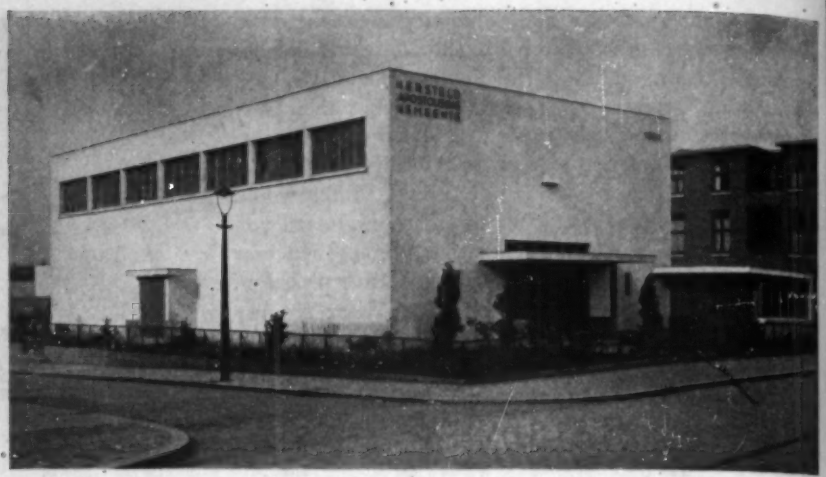
be a machine or a new form of shelter which we are able to give Her; nor will we think that the imagination and invention, the surprise and daring of a new architecture are uncongenial to the Christian spirit.

This progress will be first evident in the interior. There the ceremonial is unchanged and yet is re-clothed by each generation according to its spirit. The ancient symbols will remain—altar, choir and central aisle—but not the heavy pillars, the complicated vaults, the dim religious light. A simple room, Greek in its clarity, with quiet walls and clear light.

For a time this room will be encased in heavy masonry —or the appearance of masonry. The walls will be made thick that they may not confess the change too soon, and faced with stone to give that appearance of solidity and permanence which, however equivocal, will be insisted upon by our slow understanding. Windows will be pointed and traceried that they may not reveal the facts of construction too candidly and in order that continuity may be preserved. Then, slowly at first, and then rapidly, these also will disappear. Thin and light walls will be hung on steel, the surfaces lightly textured and unshadowed; windows will be wide, square-headed and uncomplicated; roofs will be low in pitch following the lines of steel trusses. The simplicity and quietude of the interior volumes will be reaffirmed in the exterior shapes.

Before this transition is completed the structures accessory to the church—I mean the school buildings and the buildings for charitable and social usages—also will have been reshaped by a new science of organization. That picturesque clutter, recalling the monastery, will have given way to the reasonable order and pure shapes of modern plan and structure, homely and unaffected, acknowledging and welcoming the presence of the contemporary world.

This church will be given an added humanity and warmth by the decorative arts, generously and discreetly introduced. There will be fresco and mosaic; furniture expertly made of fine materials; textiles, metal work, and sculptures in stone or terra cotta. The Church will declare Herself for modern art; will acknowledge its rightness and strength; and will take it to Herself. All of this will



Church at Kiefhoek Housing Project, Rotterdam. J. J. P. Oud, architect

Courtesy Museum of Modern Art

come slowly but it will inevitably come.

A new architecture? Yes, and also a new picture, a new sentiment, and a new symbol. The past will remain in habits of vision long confirmed, in memories that cling like bees around ceremonies often repeated, and in the symbols which alone can expound the Christian mysteries; but there will be also new associations which, being shaped by the pageant of history continued into the present, will give the past an added eloquence.

When I was in Cleveland recently I visited a section of that city occupied by immigrants from the Ukraine: a square mile or so of squalor extending westward from that deep valley, filled with steel and fire, which cleaves the city as if by the savage stroke of a great axe. At the edge of the valley, on the side of which was spread a new housing project, a church (brought here surely from the Black Sea) lanterned the sky with five golden onion-shaped domes.

I am an architect; but I did not closely observe the plan or the structure of that church. It may or may not have been logical or distinguished. I saw it, as I am sure the people who live there see it, as picture, as romance, and as a symbol. As picture, a spot of color giving life to a dun landscape; as romance, a splinter of sunshine from distant fields of wheat; and as symbol, a flag raised by sailors adrift on a wide and alien sea. I did not even look for architecture.

To tell the truth, the church, with its five shining crosses, half Greek and half Tartar, almost seduced me from the housing project which I had come to see. It was only after I had walked for some time among the neat row-houses each with its hedged garden and its view, examined in detail their honest reticent forms set in space and sun, and talked at the community house with the women who were there sustaining our civilization, that it occurred to me that here also were buildings illumined no less than the gilded church by purpose and faith. Here also was picture, sentiment, and symbol.

We have built and are building great hospitals as precise in function as the scientific instruments which are used within them. The poorest patient may receive there without cost all that modern medicine can give to the wealthiest. I call that Christianity. We have built schools and colleges to which every boy and girl regardless of race or economic status may have equal access; recreation centers and parks free to all the people; housing projects and garden cities; stadia and halls for sports, music and public assembly. We intend to build at no late date new cities planned for human happiness. Sometimes by means of a clear adaptation to function and by the logical use of techniques peculiar to our age, or by that divine guidance to which architects sometimes yield themselves, we have succeeded in capturing in their outward forms the spirit which created these new structures: I mean of course the Christian spirit of our times.

If now there were a church which by the same means affirmed its unity with that spirit; which, careless of doctrinal disputation and ancient privilege, made its present purpose express and visible in the unequivocal language of modern structure; which illumined that purpose with picture, sentiment and symbol drawn not from the researches of antiquarians but from the life that flows around and through it; well, then I should call that church beautiful. I might also call it good architecture.

I had the privilege recently of seeing in the lowest vaults of the Widener Library a very rare page from the ancient *Protevangelium Le Corbusiana* from the Abbey of St. Denis. A narrative on this page seems to me so apposite to the subject of this essay that, although my knowledge of Mediaeval Latin is not very dependable, I shall try to put it into English. It was at St. Denis, the reader will remember, that there took place those structural innovations which led to Gothic architecture. The parable follows:

On a May morning the Abbot Suger walked in his garden amid those good thoughts which were his familiar poursuivants when there came to him Brother Tomas, well versed in antique theology who, having received permission to break the silence, spoke to him, saying,

"Father, I would bring to your mind the young architect who is vaulting our aisled choir. He builds his arches, not in the good round Roman manner made venerable by ancient use, but broken, having a pointed form like arches of the barbarous Persians. Let him be reproved, I pray, lest he profane further the crescent temple of our Holy Martyr."

To whom the good abbot, having remained a moment in meditation, replied, saying,

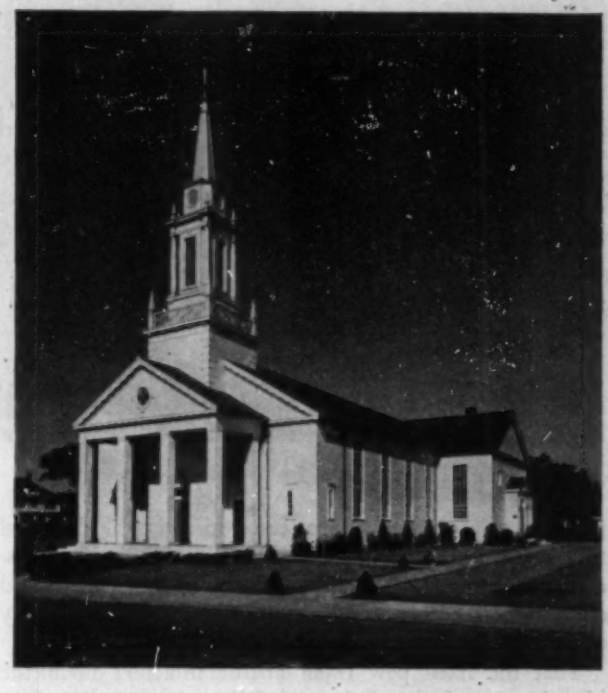
"These forms are indeed strange to me, my son, and yet I think they are not without purpose. Let us be patient. Some good thing may yet grow out of them."

ARCHITECTURE AND RELIGIOUS TRADITION

By Charles D. Maginnis, F.A.I.A.

THE ARCHITECTURE of the Church has not experienced as yet the impact of the modern philosophy. The several reasons for this circumstance are interesting and not far to seek. The Church by its very nature is tenacious of the traditional principle and solicitous of the symbols that testify to its historic continuity. It is inevitable that it should offer a conservative resistance to the claims of architectural fashion, however contemporary may have been its attitude in the days when the art was capable of vernacular estate. We cannot estimate its modern obligation without taking account of the valuation which religious sentiment puts upon ancient things. The art which sprang from the inspiration of the Christian idea is the proudest accomplishment of the human spirit. It is the romance of it which still gives beauty and dignity to the countenance of Europe. If art is no longer in this dominion, there is still the vivid memory of it. It will take time to forget how triumphantly the architectural imagination once translated the genius of religion in the Gothic Cathedral. However this nostalgia may irk the modern philosopher, the ecclesiastical mind will not be easily persuaded out of its reverence for this medieval accomplishment. Nor need we believe this to be a devotion that is under the immediate challenge of contemporary loyalties. The problem which the Church presents to the architect is in its nature so abstract that the urgency of realism is represented in the single function of seating a congregation. The rest is design directed to the ends of emotion. So singularly true is this that it would be difficult to identify an edifice from the Roman basilica onward whose organism has lost its validity for Catholic worship. An important modern church in Paris, the Church of the Holy Spirit, by Paul Tournon, reveals an interior which is substantially a rendering in new materials of Santa Sophia of the sixth century. The stigma of archaeology is obviously not easily imputed to the architecture of an institution so universal in nature and time. As a matter of fact, the only circumstance which has arisen to disturb the pertinence of early examples is the fixed pew. Yet its implications upon the plan have so far been assumed to be largely indeterminate. In the meeting-house it came to reasonable architectural composure, but Catholic and Episcopalian Churches made no concessions to it: the church was primarily a temple. Nevertheless, as it is indicated that the logic of the fixed pew will receive more significant acknowledgement than this in the modern experiments, the measure of importance to be allowed for in the formal seating of the congregation may well be considered.

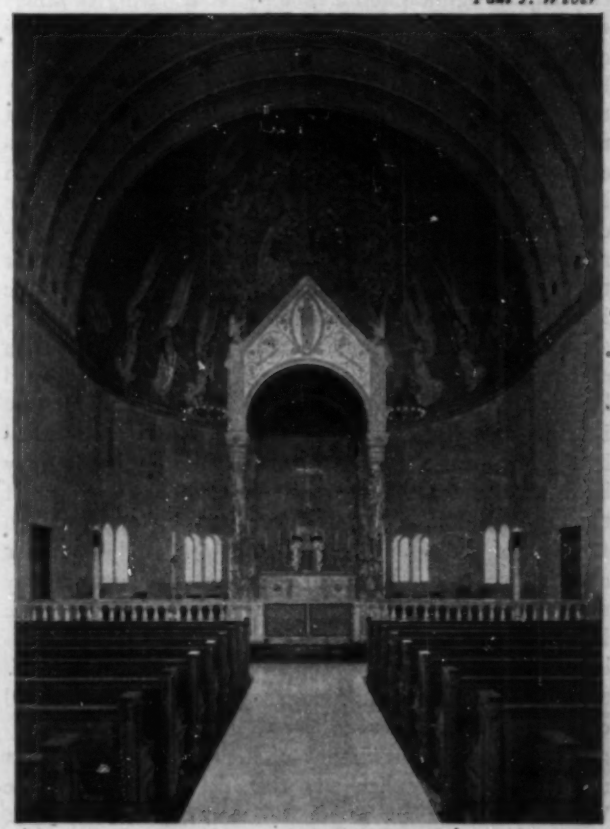
Prior to the 17th century the pavement of the church was exposed so as to reveal the integrity of the fabric in its full meaning. Where the early habit is maintained, as in Rome and in many of the continental cathedrals, we observe the constant functioning of lateral chapels. Individual groups of worshippers informally gather about. There is little intrusion upon the nave, which is effectively occupied only at times of large assembly when the people stand. The fixed pew derived its rationality, of course, from the idea of services at stated hours in the

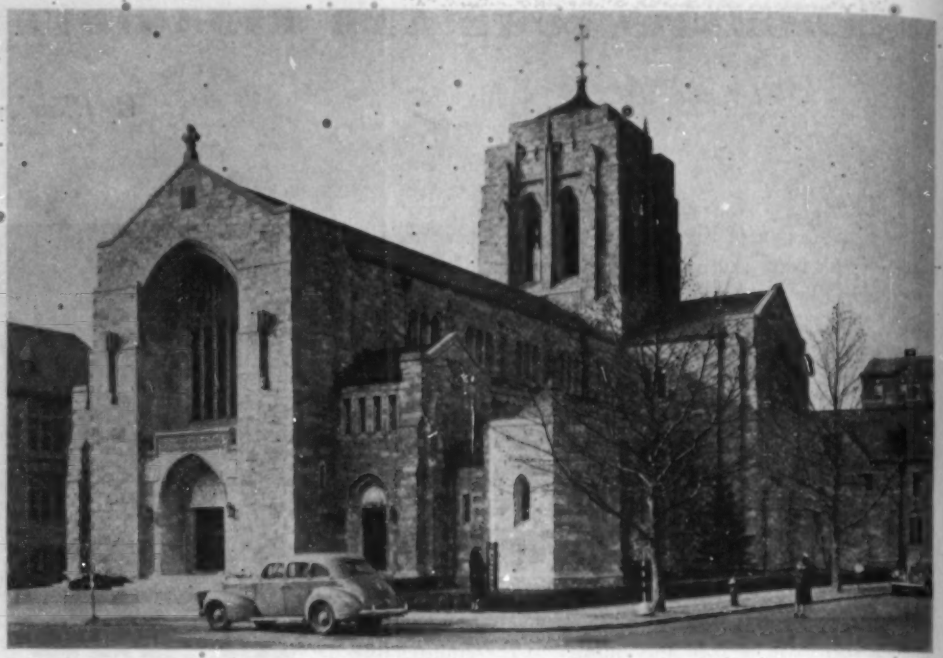


Above: Holy Name Church, Fall River, Massachusetts

Photographs illustrating the text of this article are examples of the work of Maginnis and Walsh, architects

Below: Altar, Trinity College Chapel, Washington, D. C.
Paul J. Weber





Our Lady Queen of Martyrs, Forest Hills, L. I., a modern version of Gothic precedent

presence of a congregation oriented to a central altar and to the pulpit. The effect of this condition was to discountenance the lateral chapel which is now to be found only in cathedrals and in seminary and community churches where there is an adequate ministry.

That the fixed pew is an artistic infliction upon the historic type of church is not to be contested. When in the basilican type of plan the seats extend into the side aisles, the junction of the columns with the pavement is hidden in the general perspective with sensible detriment. In spite of all efforts to moderate their arbitrary encroachment by the lowering of the backs and ends, pews are critically an ugliness and a banality. Man having definitely elected to be comfortable at his devotions, nothing is more certain than that this fixed furniture has come to stay. It is not surprising that even in Catholic churches, sanction should have been sought for the sloping floor, but the expedient has failed to win more than a limited acceptance. The flexibility of new methods of construction is bound to encourage the study of the problem. The column will invite elimination, notwithstanding its innocuousness in the Colonial meeting-house. Width rather than length of plan will probably be emphasized as in the interest of large interiors. Compromise will be sought in the sacrifice of the recessed chancel. That the issue of such enterprise would probably be revolutionary is suggested by the scientific judgment that the optical and acoustic interests of a large audience are most effectively satisfied by the organism of the opera-house. Only repugnance may be expected from the idea that the traditional concept of the church should be exchanged, whatever the plausibility, for that of the auditorium. In the case of the Catholic church there is a solemn circumstance which particularly makes against this conformity. It is the principle of the Divine Presence by virtue of which the altar is theologically the Church. The implication of this upon the architecture is profound, involving as it does the emotional comprehension of this mystery. Terms of becoming dignity must give the testimony of it. The people's comfort may make its peculiar and difficult demands but the Worshipped must not be subordinated to the worshipper. It is beside the point to represent how unworthy has been the response to the implication of such sacred principles. It needs no telling to what degree in this country the art of the Catholic church fell away from those standards of intelligence and beauty which in an older time it had itself established. Nor should we fail to acknowledge how in that time of neglect the art of the Episcopal church bore admirable witness of them.

Without counting too confidently on the immediate influence of the new movement upon ecclesiastical architecture, it has already brought to it a cleansing and a stimulation to thoughtful and literate enterprise, however unlikely it is to accomplish the complete breach with tradition that is so arbitrary a demand of the modern specifications. Such an invalidation of history would be an intellectual surrender without warrant in any reasonable appraisal of the compensations. Indeed it is difficult to trust the sincerity of the conviction that nothing that man has wrought through the ages in his quest for beauty is longer of consequence to us, but that the world which matters began for us the day before yesterday. I have sought earnestly for the source of this extraordinary persuasion and have encountered only the circumstance that certain novel properties have been found in ferro-concrete. Conceding the value of this discovery, I am still puzzled why it should be thought capable of the dignity of a cosmic revolution. However this may be, it is the logic of this medium which has determined the characteristic forms which are presented us in much of the new architecture. As yet these forms have affected only realistic building in this country but they are certain to intrude presently in ecclesiastical design. That this process has already made inroads to a remarkable degree upon the conservatism of Europe is fairly accounted for by the poverty created by the first World War, when architecture was compelled into the most rigid economies. It is an amusing circumstance that by this twist of events we are ironically thrust back upon our deference to European initiative.

England is almost the only country which has not yet participated in iconoclastic adventure. It is in Germany

An adaptation of Italian Renaissance: the Trinity College Chapel, Wash.

and France that we find the startling signs of independence. Sweden and Denmark and Holland have made terms with modernity which involve no surrender of their traditional media. Some of the German work has been so radical as to evoke a protest from the Catholic hierarchy to the effect that, whatever the qualification of its aspect, the church should clearly symbolize its individuality. Good examples are, however, to be noted as Frauenfriedenskirche, Frankfurt am Main, by Hans Herkommer. And the modern essays of Professor Bohm, whose penchant is a parabolic unity of walls and roof, are noteworthy in their scholarly reserve.

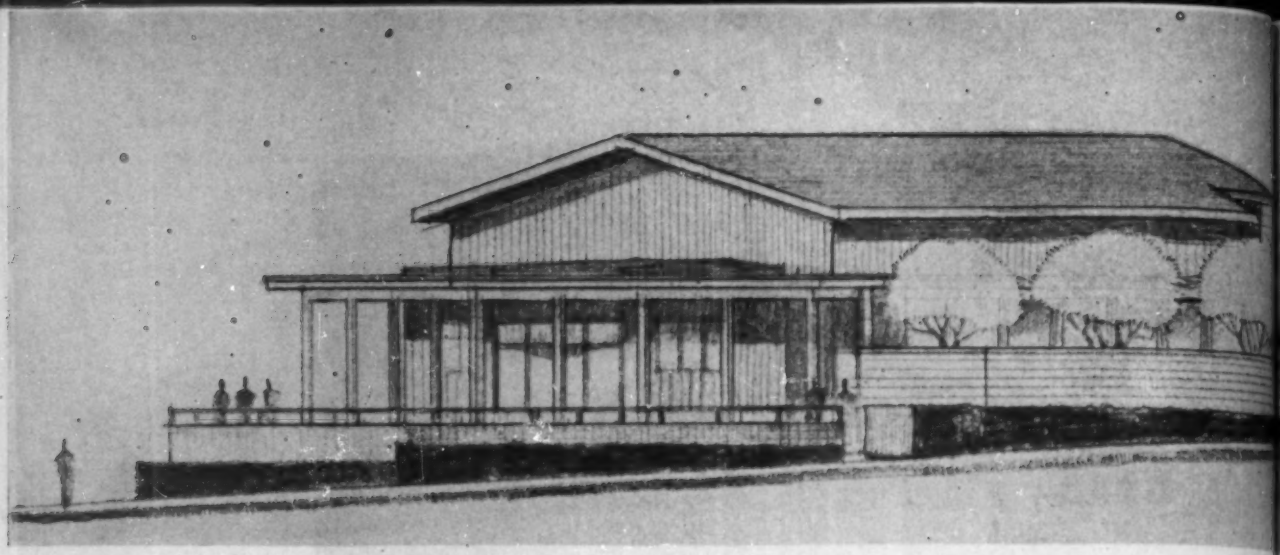
The earliest French example to excite critical interest was the church at Raincy outside Paris, by Perret Freres. Logically developed in a revealed concrete, its particular dissimilarity to the Gothic precedent, which its lines recall, resides in its method of lighting. Instead of a staccato fenestration, the walls throughout take the character of a grille, the voids of which are enriched with stained glass. After twenty years of weathering, the exterior of the building, however, confirms the idea that the virtues of concrete are best concealed. The interesting little Church of St. Louis de Vincennes within Paris has a modern construction which comes with charming purpose to a Byzantine character in an interior enhanced by the sensitive mural and window colorings of Maurice Denis. The traditionalist is easily drawn by a modern expression so reticent and reverential as this and by the charming little example at Tavannes, Switzerland.

Against the venerable background of Italy we regard the play of modernism with especial curiosity. In Rome, already well supplied with churches, it was found necessary by reason of a shift of population to provide a series of new ones. Though it needed temerity to bring architectural economies to the intimidating presence of Michelangelo, these were adapted to the modern austerities, whether in a gesture of philosophy or of sheer financial prudence I am not informed. What is chiefly significant is the indication that Rome offers no discountenance to the modern enterprise. The episode has been disappointing. The Church of Christo Re, the most challenging product, is of an austerity that might have been admirable were it not for the infliction of two uncouth masses in the terms of flanking towers which suggest anew that the modern design has so small a resource for towers that it had best abandon them. A recent work at Faggio, illustrating a curious union of parochial church and picture-theater, reflects the German realism. The side walls of the church, instead of forming parallel lines, are of a serrated plan so as to contrive planes which conceal the presence of the windows from the view of the congregation. So extraordinary a measure was not contrived for the protection of the public against the hazard of ugly stained glass, but was no doubt employed to secure a directional system of lighting.

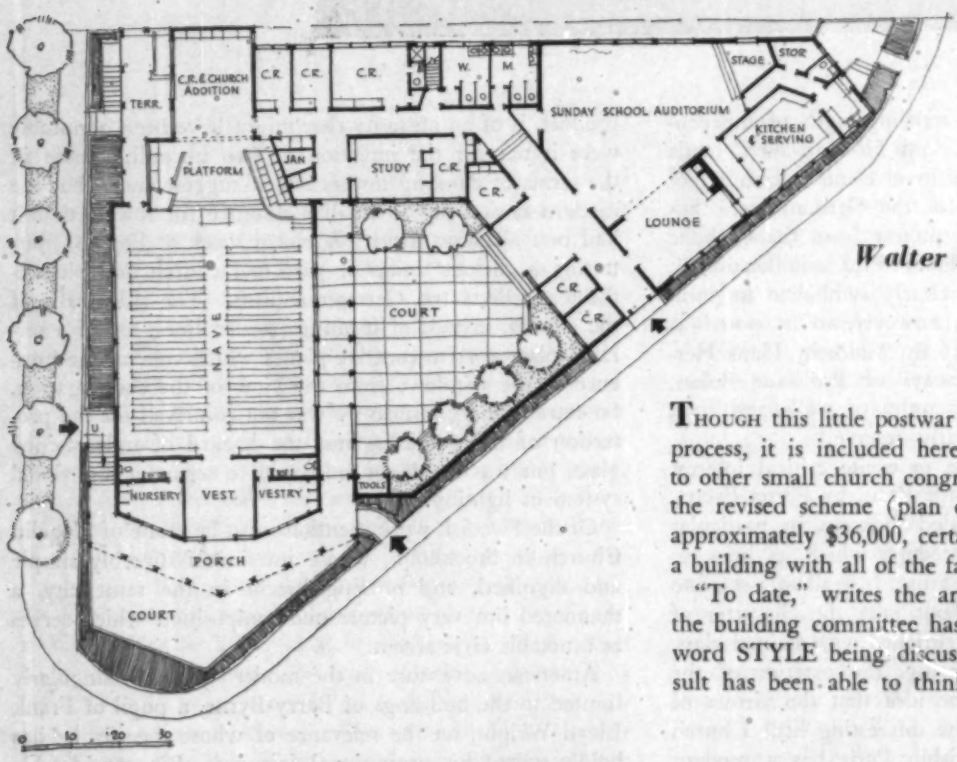
Of the Swedish work mention must be made of Hogelid Church in Stockholm, whose interior is superbly simple and dignified, and of Englebrecht in the same city, a mannered but very picturesque composition which serves as a notable civic accent.

American adventure in the modern idiom is singularly limited to the buildings of Barry Byrne, a pupil of Frank Lloyd Wright, on the relevance of whose theories he has boldly staked his professional fortunes. But considerable evidence is available of enterprise which seeks to give fresh interpretation of the historic motive. This is interestingly provided by the designs of Richard Shaw of Boston, Oliver Reagan of New York, A. H. Albertson of Seattle, Washington, Henry D. Dagit of Philadelphia, Edward J. Schulte of Cincinnati, and others. Doubtless the powerful influence of the late Mr. Cram contributed much to hold Episcopalian art under a Gothic dominion that must presently even there grow less exacting.

In a world of disconcerting and dramatic change old ideas are expected to make submission. Nevertheless, the Church is an institution that may in complete propriety choose its own accommodations. No interest is more removed from the hysterical importunity of novel principles. It will come to its rightful authority in American art by holding in a spirit of moderation to a sense of its independent mission rather than by a deflecting course which involves the violent disqualification of history.



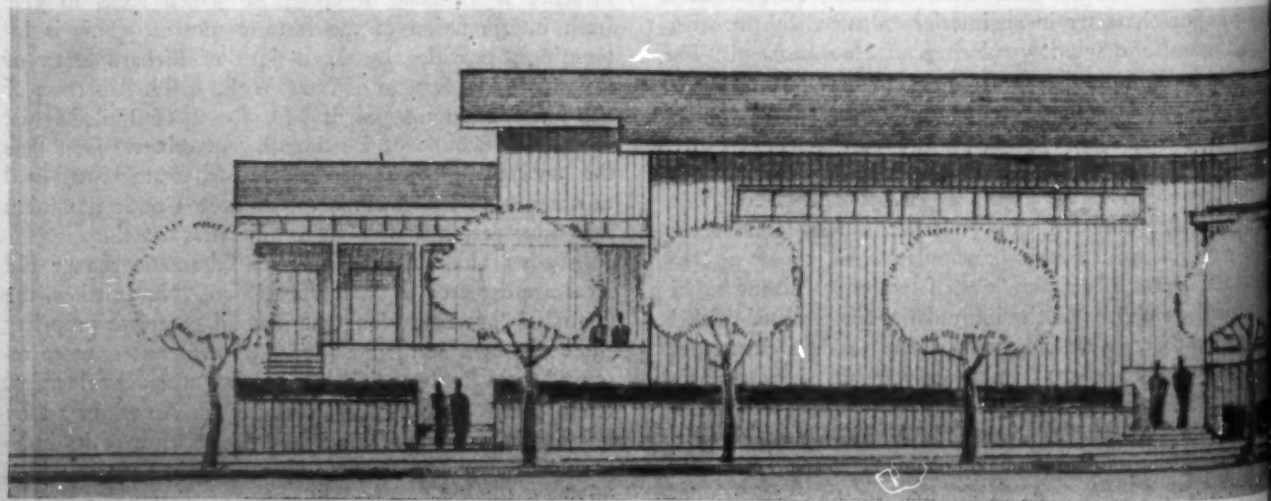
CHURCH PLAN THAT POINTS A MORAL

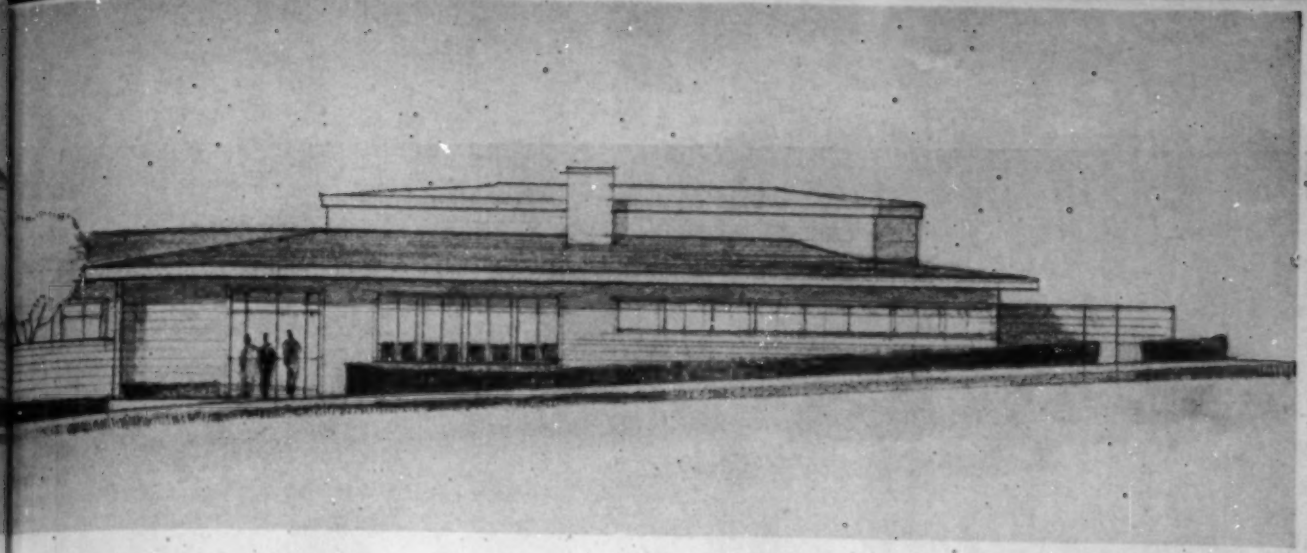


Walter L. Reichardt, Architect

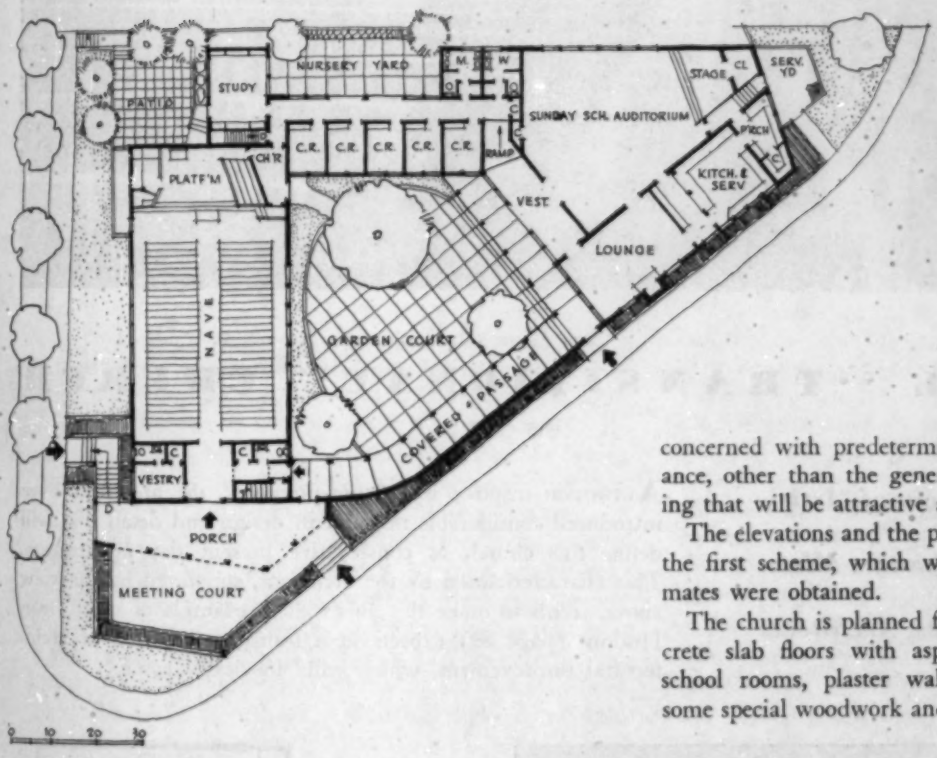
THOUGH this little postwar church is still in the planning process, it is included here as possibly pointing a moral to other small church congregations. Construction cost of the revised scheme (plan opposite page) is estimated at approximately $36,000, certainly a modest expenditure for a building with all of the facilities indicated.

"To date," writes the architect, "the entire work with the building committee has been carried out without the word STYLE being discussed; and the architect as a result has been able to think out problems without being





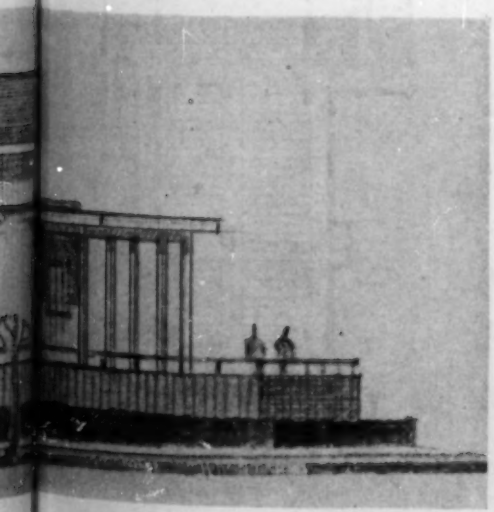
Proposed Building for the First Reformed Presbyterian Church, Los Angeles, Cal.

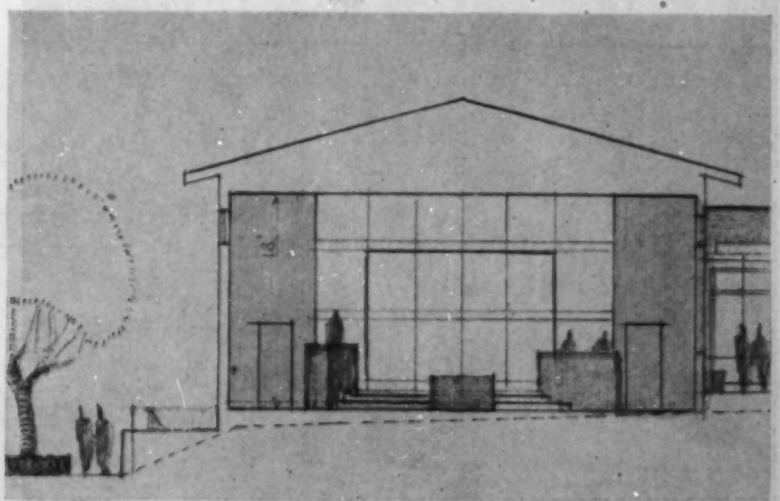


concerned with predetermined desires concerning appearance, other than the general desire of obtaining a building that will be attractive and function properly."

The elevations and the plan on the facing page represent the first scheme, which was cut down slightly after estimates were obtained.

The church is planned for redwood exterior finish, concrete slab floors with asphalt tile surfacing in Sunday school rooms, plaster walls with acoustic ceilings with some special woodwork and wood floors in the auditorium.





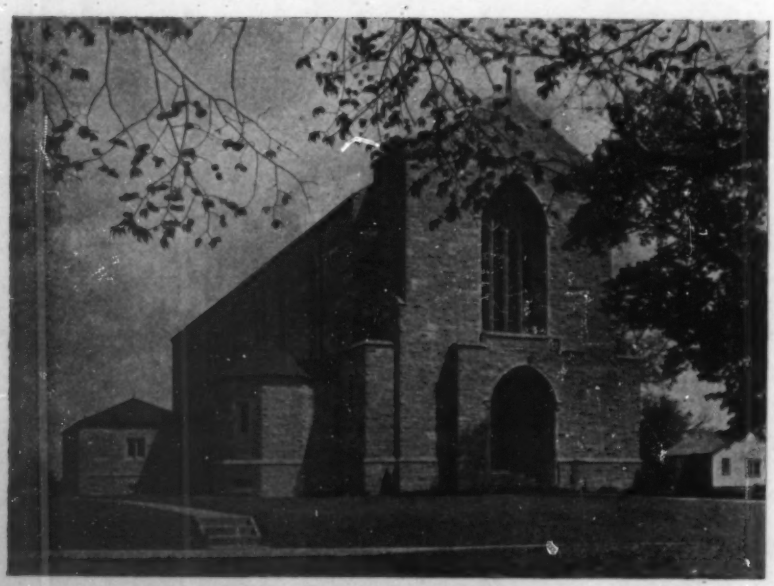
A TYPICAL "TRANSITIONAL" CHURCH

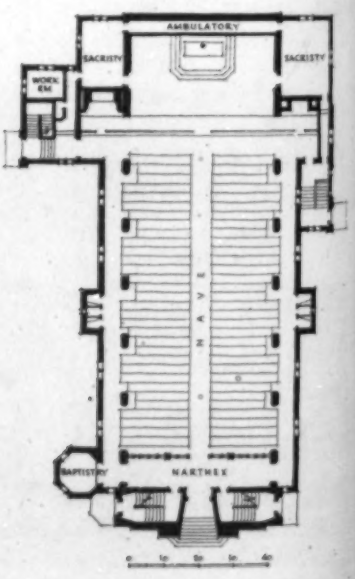
Church of St. Francis of Assisi,

Rochester, Minn.

Hills, Gilbertson & Hayes, Architects

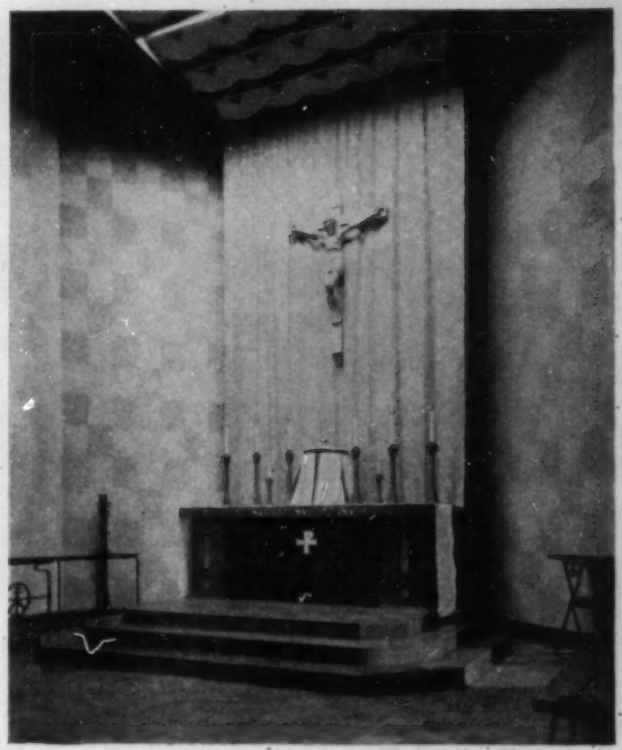
ALTHOUGH inspired by Gothic precedent, the architects have introduced considerable restraint in design and detail that will define this church as conservative present day architecture. This characterization by the architects, supported by the view above, seems to make this an excellent example of what Dean Hudnut (page 84) expects in a transitional period of architectural improvement, which will "inevitably come."





SOME TRENDS IN CHURCH DESIGN

By Brother Cajetan Baumann, O.F.M.



Kenneth M. Wright Studios

The altar is, as it should be, the inspiring focal point in the modernized Church of the Guardian Angel, Hastings Minnesota. Hills, Gilbertson & Hayes, architects *(see p. 97)*

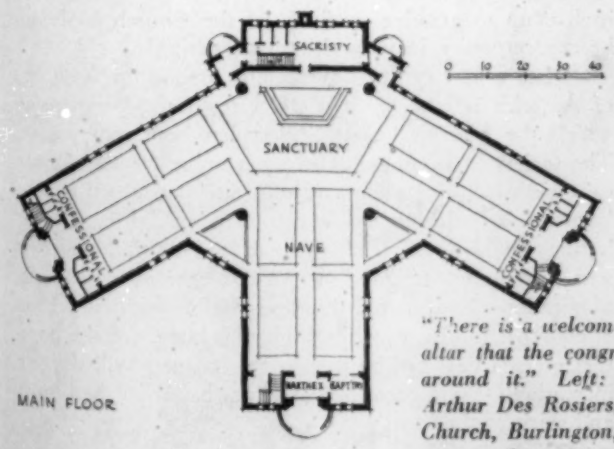
THOSE CONCERNED with the architecture of the Catholic church are aware of several definite trends which have developed in recent years. A certain change of attitude is taking place, a marked influence toward greater simplicity, functional planning and structure, and contemporary materials and art forms. This change is for the better; many welcome its trend and are supporting it wholeheartedly. The Roman Catholic Church as a living organism has permanence in its flexibility; it adapts itself to all places, peoples, periods and times, yet never changes its doctrines.

The central motif of Catholic church architecture goes back to the Last Supper. The scene took place in a banquet hall—the Cenacle—and the central feature was a banquet table. This table has been retained and has become the center around which church service and ritual revolve. Whether in the early church in the house of the Roman patrician, or in the subterranean catacombs during the persecutions, this table—the altar—occupied the focal point, and the surrounding space was the sanctuary.

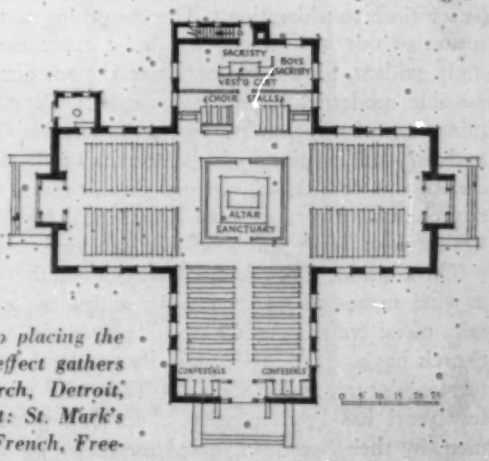
There is no element in a church more essential to worship than the altar, for without it Mass cannot be celebrated. Neither the congregation nor the cross, neither the pulpit nor the baptistry demands our attention as much as the altar does. Architecturally it must be the central point of the interior of the church toward which all eyes must be turned. The altar can make or mar the beauty of the entire edifice. All else must be subordinated to it. The eye and the mind must be led immediately towards it. Its position and its adornment are therefore of major interest to the architect.

The altar is essentially a simple form and its liturgical requirements are very few. A perfect altar, said the late Cardinal Vaughan, is the consecrated table without additions of any kind. The permanent furniture on the altar are the cross and the candlesticks. Other additions *may* be made, but they may be added *only on condition that they do not interfere with the essential structure of the altar or of the tabernacle* as laid down by the rubrics.

There is a welcome trend toward so placing the altar that the congregation, rather than facing it from one direction only, in effect gathers around it. In this case the priest is facing the congregation. It is hoped that this practice will find greater favor, and if it does, a great variety of interesting church plans will be evolved. There is



MAIN FLOOR



"There is a welcome trend toward so placing the altar that the congregation . . . in effect gathers around it." Left: St. Agnes Church, Detroit, Arthur Des Rosiers, architect. Right: St. Mark's Church, Burlington, Vt. Freeman, French, Freeman, architects

Kenneth M. Wright Studios

Warmth and "tranquility" achieved by interesting textures and mass

no church law obliging the priest to say Mass with his back to the congregation. The location of the choir near the Sanctuary rather than in a gallery or in the rear of the church also should receive serious consideration. After all, the members of the choir are there to respond to the priest and not to compete with him.

The newer trend of Catholic church architecture shows a strong tendency toward simplicity and honesty. The primary essentials of a church—the altar, the candles, the crucifix, the light, the steps, the walls—are all being made more simple and direct. The return to that simplicity delights us as though we had just rediscovered it.

There is a current tendency to bring the church closer to the public; to erect smaller churches but a greater number of them. The trend has become possible partly because of a greater increase in vocations to the Priesthood; partly because of availability of transportation. Such a program also reduces the budgeting worries of the pastor and of the congregation.

There is an effort to provide adequate open space in front of the newer churches, large or small. A proper setting gives the church both repose and dignity, in a way recalling the function of the early atrium. Too many of our churches are built directly to the sidewalk where the doors and windows are exposed to the dirt and blare of the streets. Of course, in large cities, conditions mitigate against a setback plan, but whenever possible it should be a prime consideration. The disturbing noise and confusion of our city streets, which have become so unceasingly evident, have made necessary the acceptance of every possible modern alleviating invention. To attain even a minimum of respectable quiet, sound-deadening insulation and air conditioning, which permit windows to remain closed, are considered essential in planning the modern city church. Every means for making it clean and quiet, healthful and tranquil, should be specified.

The Catholic Church has always used the graphic arts as vital means to spiritual ends; sculpture, painting, mosaic, metal craft, textiles have all played their parts. The church has a great need for really good statuary, architectural sculpture, and other arts. The trend within the last few years has been to select more and more competent men, by their own recognized merits or by open competitions. The selection of professional men, not by their faith alone but by their ability to produce good works, is a heartening trend toward better and more vital design.

An interesting correspondence regarding sculpture and the applied arts, between the Archbishop of Cincinnati, the Most Reverend J. T. McNicholas, O. P., and one of the sponsors of the recent Dayton Religious Art exhibit, brings today's trends and hopes to the attention of those who may be timid of this new approach. Archbishop McNicholas said recently*:

". . . Religious art in the churches of the United States, considering the spirit of our country and our resources, should be elevating and inspiring. Our commercial studios, having no real interest in art and utterly devoid of all inspiration, have largely controlled production, with deplorable results.

"We have artists who have a creative urge to do better things for our churches. Among them are extremists who cannot be expected to advance the cause sanely. One cannot accept his judgment when he considers it an advantage to know little, if anything, of the history and tradition of religious art.

"It seems to me very gratifying that many artists, some whose names command world attention, seek sincerely to interpret religious heroes and Christian ideals. Whether or not one accepts the interpretation, the fact itself is important. . . ."

Another very important point—and one which certainly will result in better churches tomorrow—is the tendency of close collaboration between pastor, architect, engineer and artist from the very start of planning the building. This is a definite departure from the conventional procedure of thinking about decorating the church or placing the sculpture (and even the mechanical equipment) after the job is finished.

Much has been accumulated by convention, but convention is neither tradition nor liturgy. The rejection of meaningless details is a necessity in today's church design. Beneath distractions we must seek directness; but finding directness we must express it with unity. That unity shall be expressed in structure and in form, in material and in color. In church design one must also follow the precepts and spirit of the liturgy; one must plan from the inside out, proceeding from the altar and building around the needs of the liturgy. Only then can he hope to express the true spirit for which a church is built.

The Catholic Church has always been the patron of architects and artists. Her susceptibility to new ideas, new architectural forms and concepts in planning resulted in the great structures of every age and period. Therefore to live up to genuine tradition of the Church it should be *contemporary* in its architectural design!

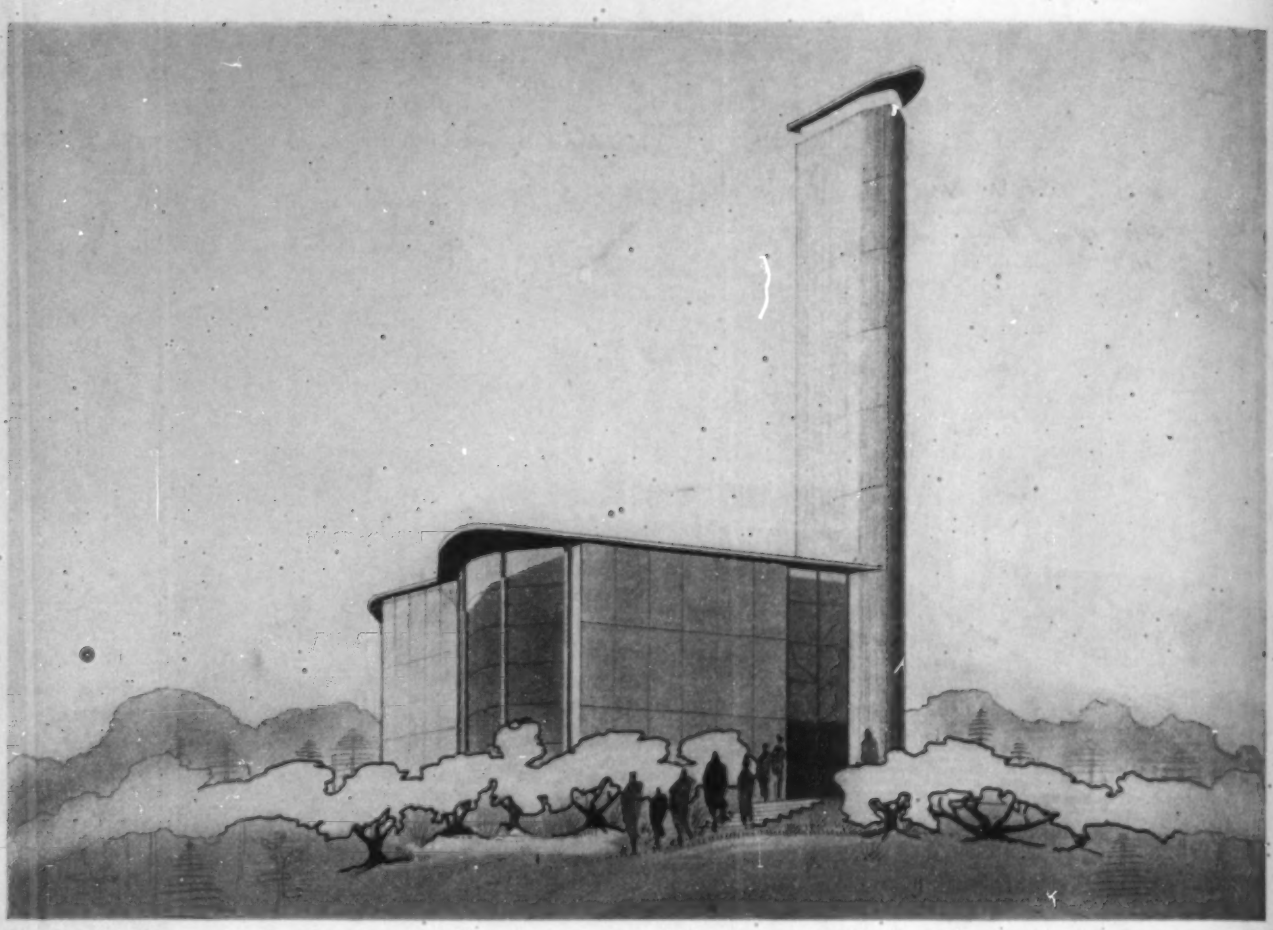
Of late a new spiritual awakening among the Catholics of America is evidenced in the Liturgical Movement in which the Liturgical Arts Society has been most active. The society is composed of many members of the American hierarchy, prominent priests, architects, artists and laymen. Its influence has been tremendous. Its sponsored lectures in seminaries, abbeys and universities, meetings and discussions, religious art exhibitions, as well as its publications, have stirred those responsible for the erection of churches to plan worthily. There is hope, definite hope, that ecclesiastical architecture in this country will develop increasingly along contemporary lines based on the beauty and spirit of the liturgy.

* In a letter in the August, 1944, issue of *The Liturgical Arts*.

Norton & Peel

Simplified altar, statuary, and wall treatment transformed the interior of the Church of the Guardian Angels, Hastings, Minnesota. Wainscot is of oak in dull honey brown according to Hills, Gilbertson & Hayes, architects

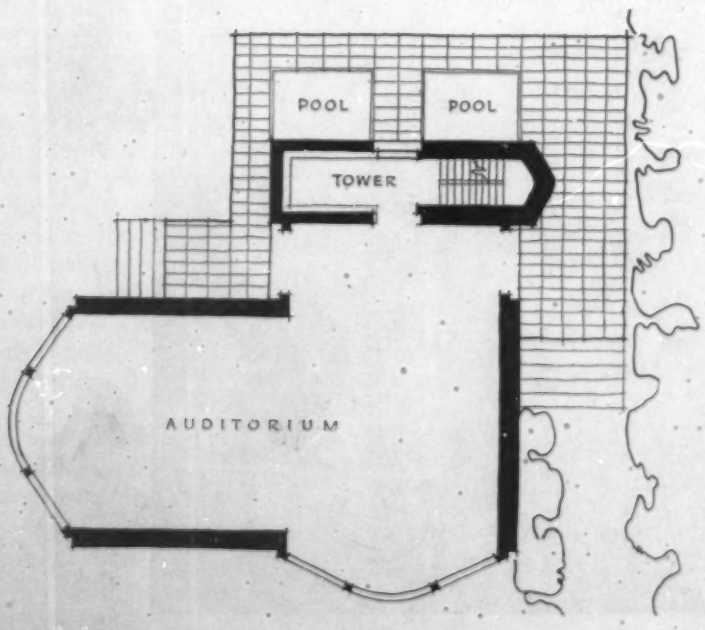
Kenneth M. Wright Studios



POSTWAR CHAPEL PLAN

Kirkridge Chapel, Delaware Water Gap, Pa.

Paul Beidler, Architect



CONCEIVED as part of a group of religious buildings to be erected on a 400-acre tract in the highest mountains of the Pennsylvania Poconos, this chapel will be the focal point of a Presbyterian ministers' rural retreat.

The chapel auditorium, approximately 18 feet by 40 feet, will be equipped with movable benches or seats that can be arranged informally with respect to either of the two main windows. The altars, too, will be movable so that they can be placed in either bay depending upon the time of day, the location of the sun, and the purpose of the meeting.

The plan of the chapel is so oriented that each of the two windows will command a sweeping view; one to the northwest, the other to the southwest. Windows will extend from floor to ceiling, and are expected, by the architect, to make it possible for the natural environment to act as an inspiring background.

The tower of the building is to have a utilitarian function. It is to contain the water pump and tank for the entire project. The top of the tower will have access stairs, and will contain an observation room with windows surrounding it. The pools at the base of the tower will be fed by the overflow from the water tank.

Interior and exterior wall surfaces will consist of large panels, the material to be selected later. Some form of radiant heating will be used. Ventilation will be by controlled wall openings, not windows.

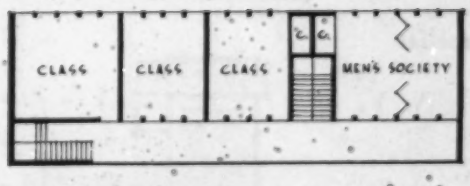
"LET MATERIALS SPEAK FOR THEMSELVES"

Proposed Building for Christian Reformed Church

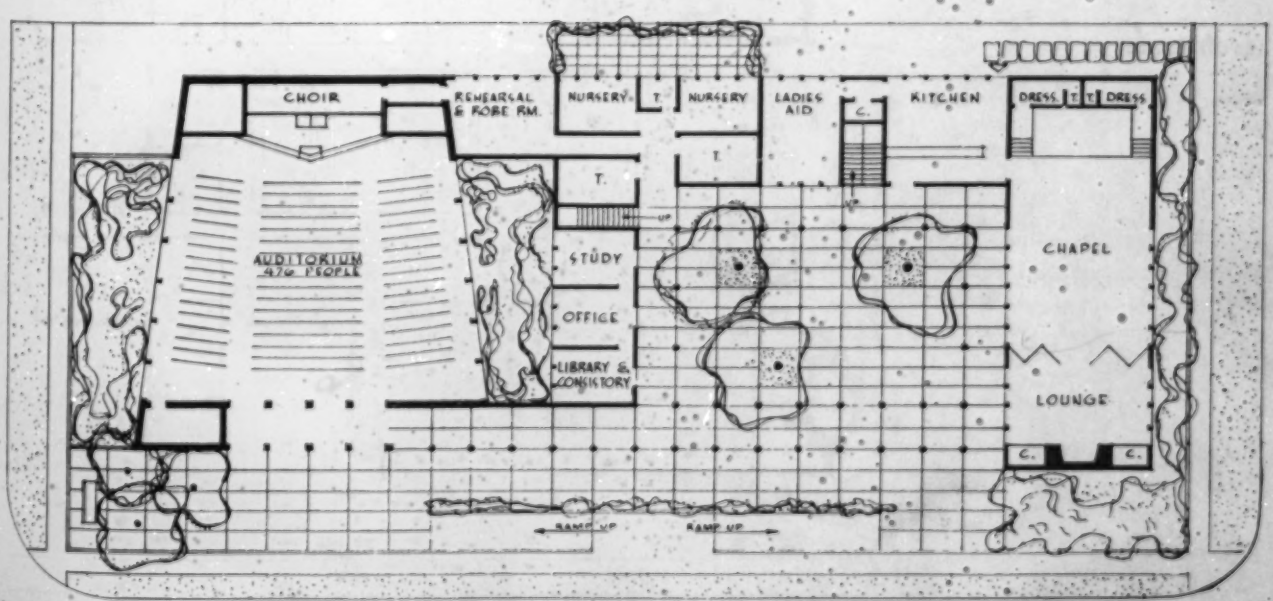
Whitney R. Smith, Architect, Pasadena, California

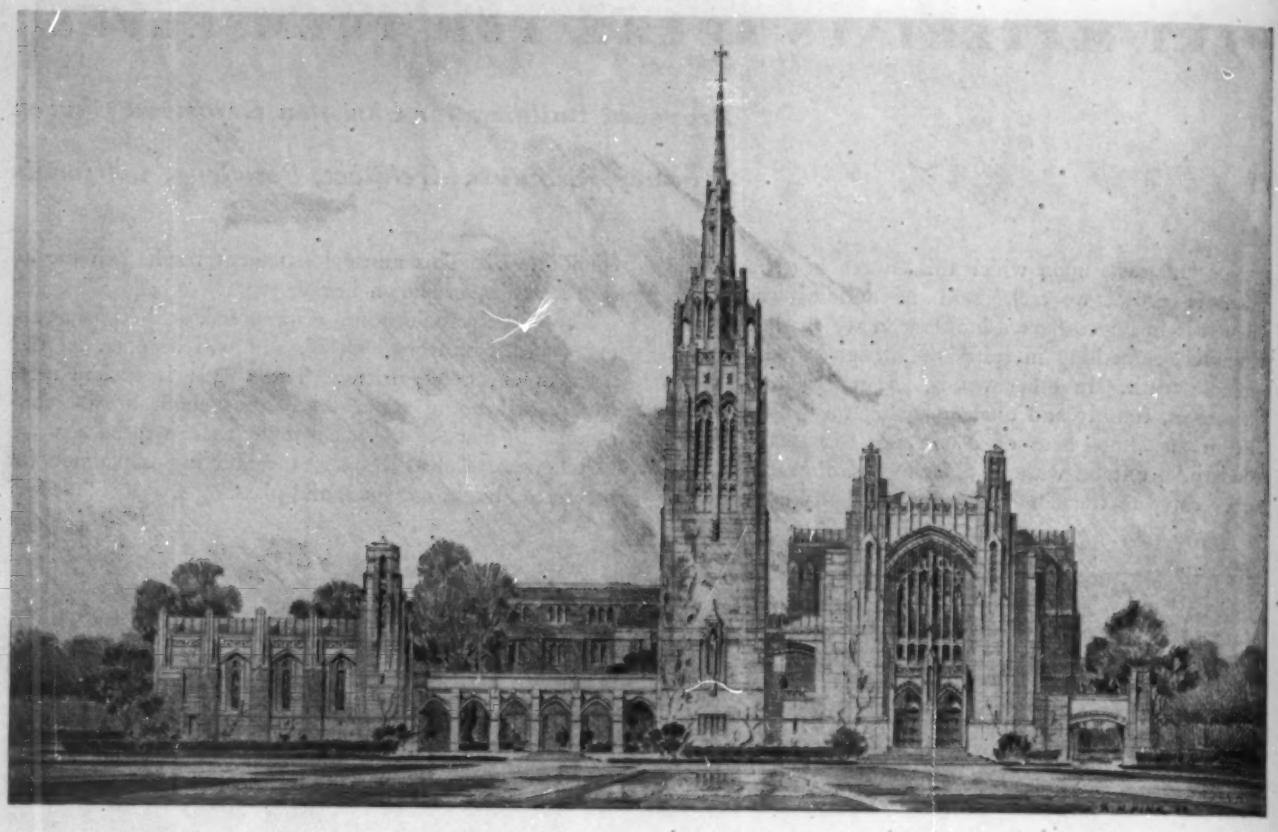
SINCE THE BASIS upon which this church has been established is Truth, we feel," said the building committee, "that it is fitting to have a building in which this truth is promoted, something in spirit and design to still further promote truth. In other words, let materials speak for themselves, frankly and unabated. Let the entire unit be cast in an atmosphere of democracy. If this is called 'Modern,' let it be without a feeling of abstractness, but rather carry to the observer's mind and heart a glow of friendliness." This unusual statement resulted in the architect's solution shown below.

The church auditorium, as proposed, will have a seating capacity of from 400-450, and will be open on two sides to enclosed gardens. The chapel is designed for use as a meeting room, as banquet hall, or for class rooms. In place of the usual tower there will be a group of tall trees. Construction of the building is planned for reenforced brick, redwood, and glass.



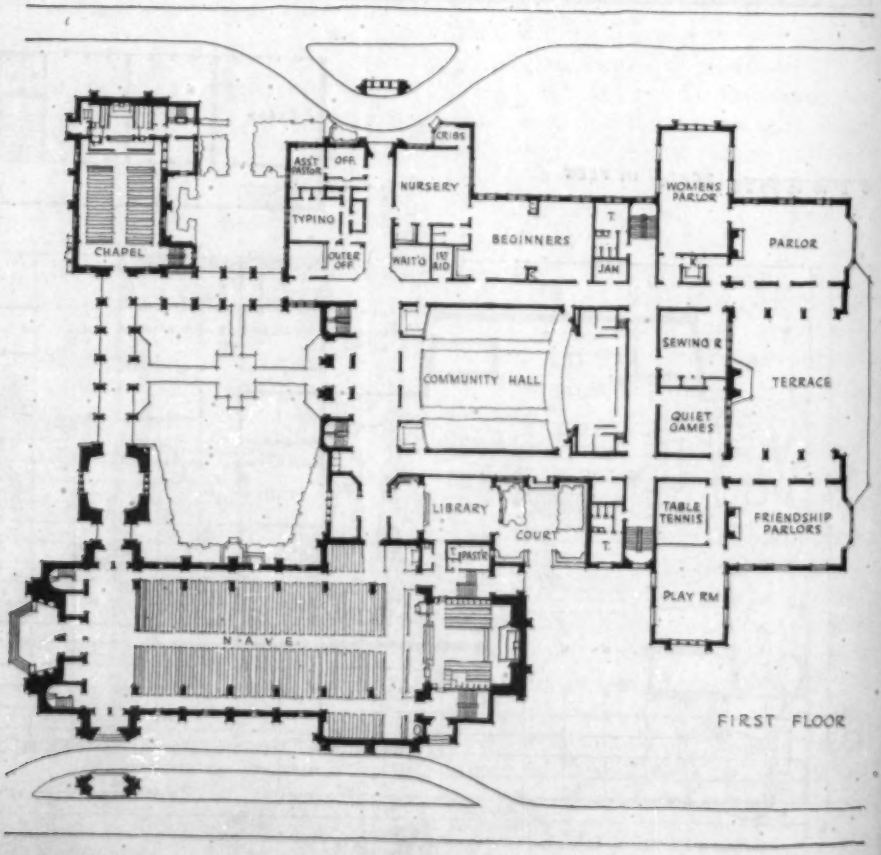
0 5 10 15 20 25 SCALE IN FEET



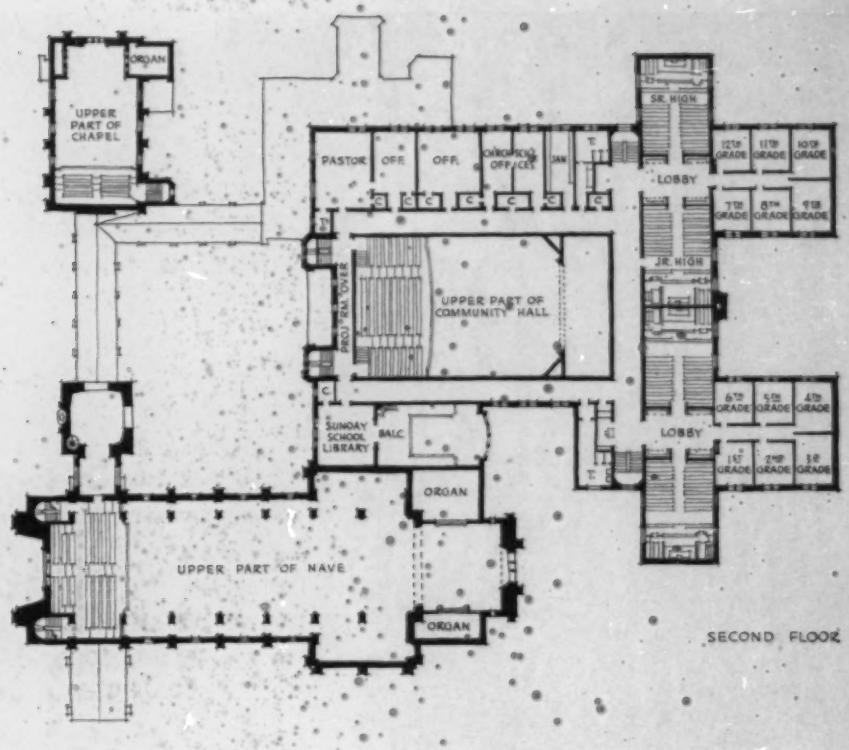


MODERN FACILITIES, TRADITIONAL STYLE

Postwar Plan for the Asbury-First Methodist Church, Rochester, N. Y. Wenner and Fink, Architects



The postwar church, like the postwar school, runs to facilities for many extracurricular activities



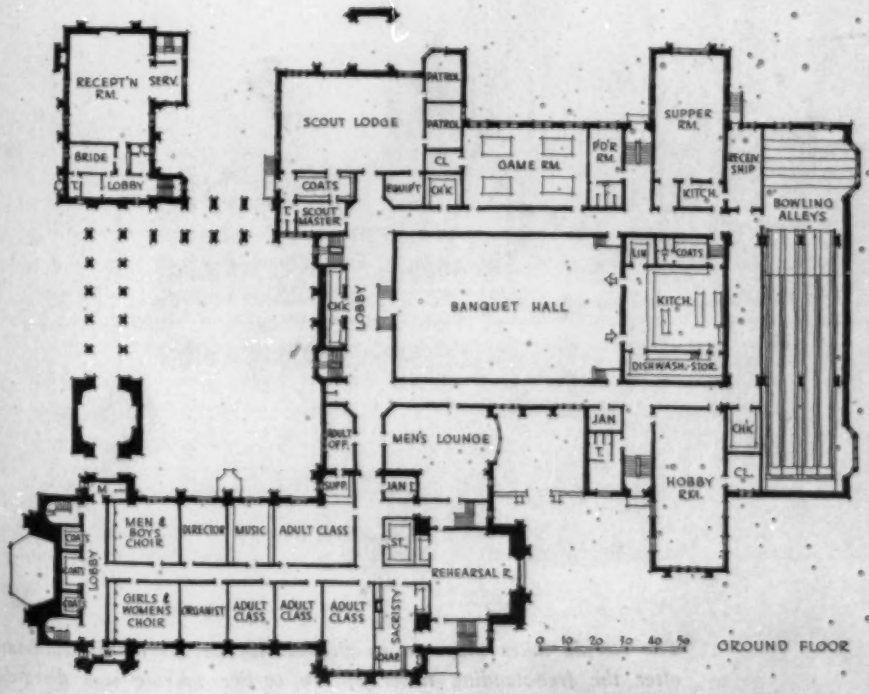
SECOND FLOOR

E. M. Conover, Director of the Interdenominational Bureau of Architecture, comments that this large postwar plan "quite clearly indicates the rather pronounced trends in current church planning. To many the exterior design will seem too traditional. This will be disappointing to those who feel that after the tremendous amount of publicity with regard to modern architecture, again the church will adhere closely to the traditional.

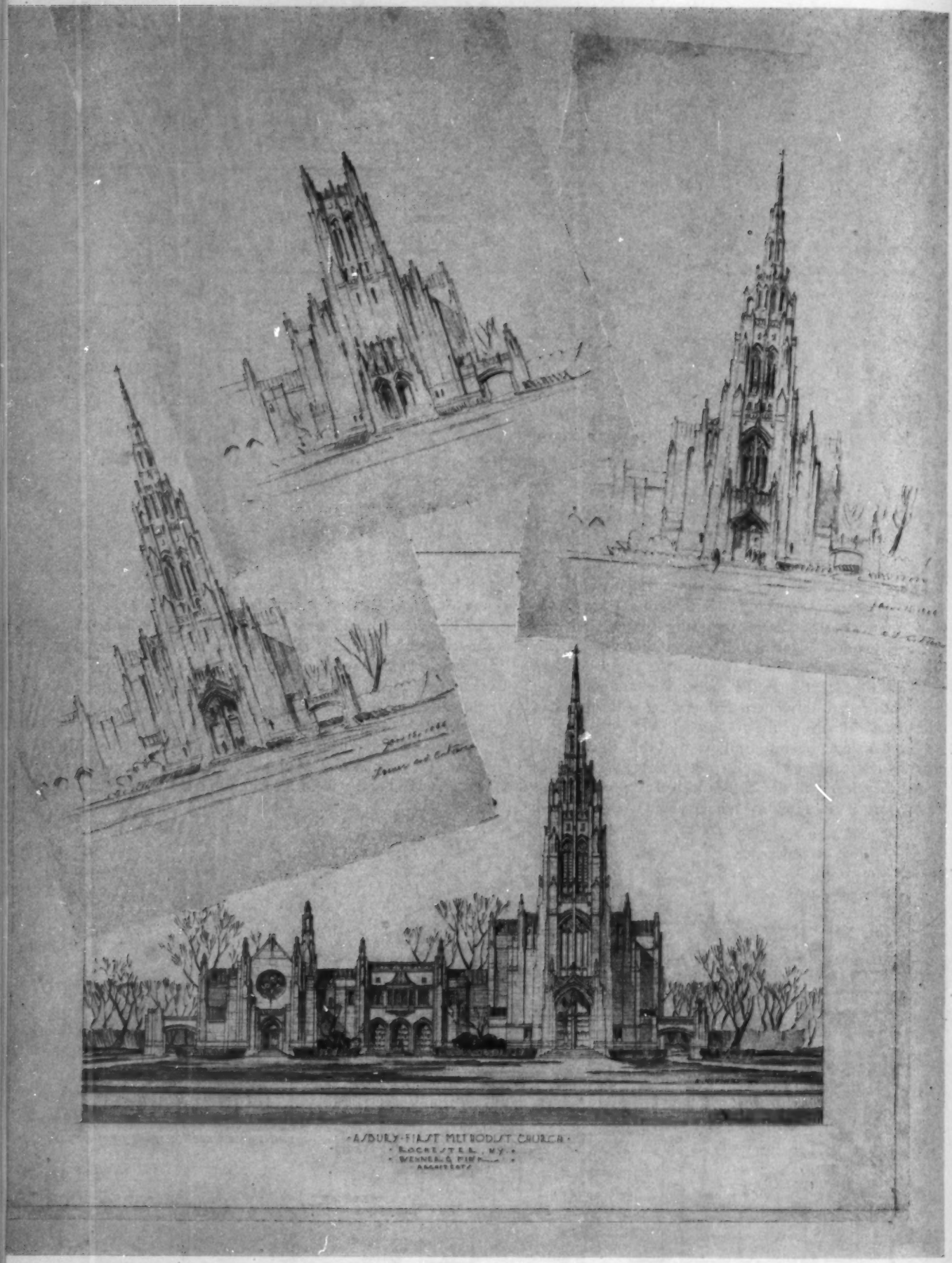
"To practicing architects, however, this is a warning that church congregations do not clearly accept designs which they fear will not be conducive to worship experiences; just as more noisy modern music does not find ready acceptance in the church service, so congregations are on guard against extreme modernism in design.

"The floor plan indicates the rooms that are found necessary to carry on the work of a rather large Protestant church. Smaller churches will need smaller rooms, but practically all of the activities indicated, with the possible exception of bowling, would be required by churches costing as little as $50,000."

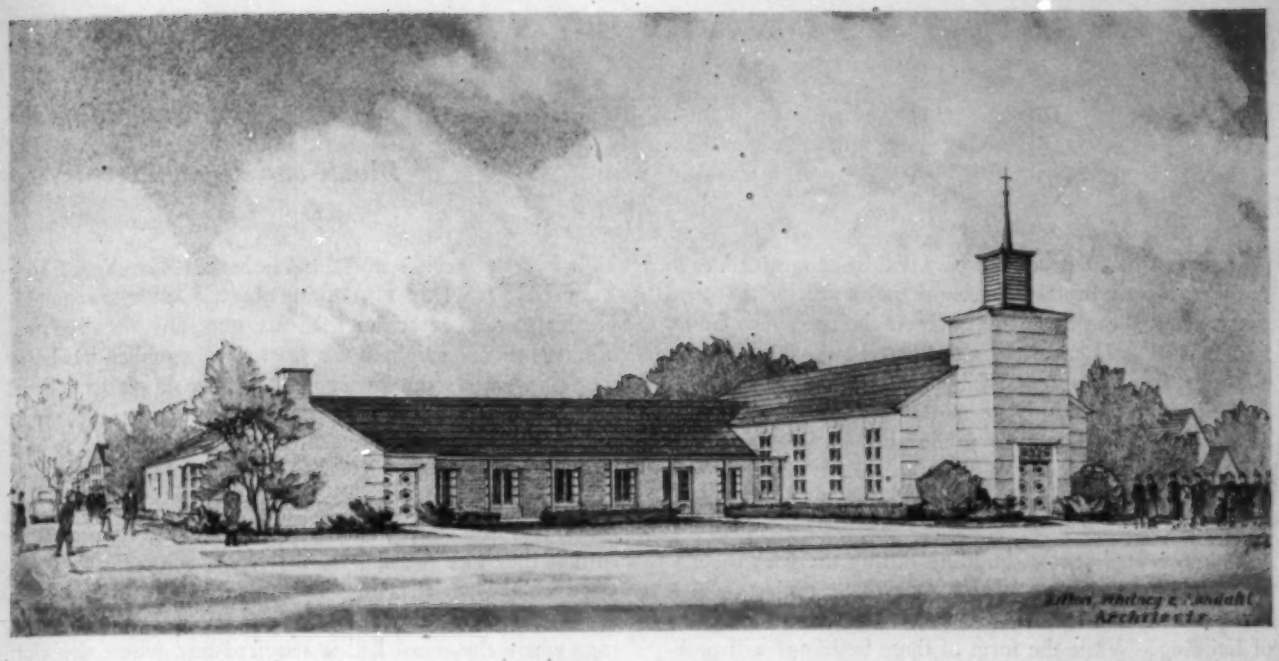
The new building, a result of a merger of the First Methodist and Asbury Methodist Churches, will probably cost $800,000 and will be erected, after the war, on a new site of about 4½ acres.



Free-standing tower in this early scheme was later incorporated with auditorium section (see next page)



The steeple takes shape in rough sketches on the architect's board, after the free-standing tower of the earlier scheme was discarded



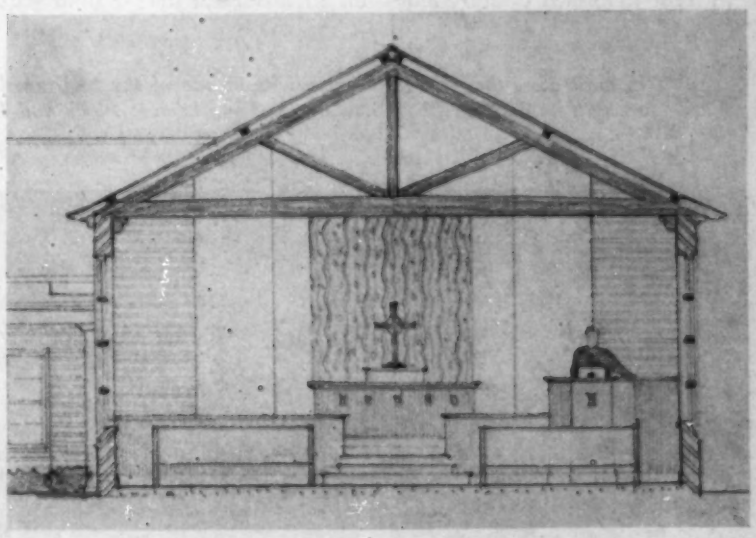
FOR A CHURCH'S COMMUNITY ACTIVITIES

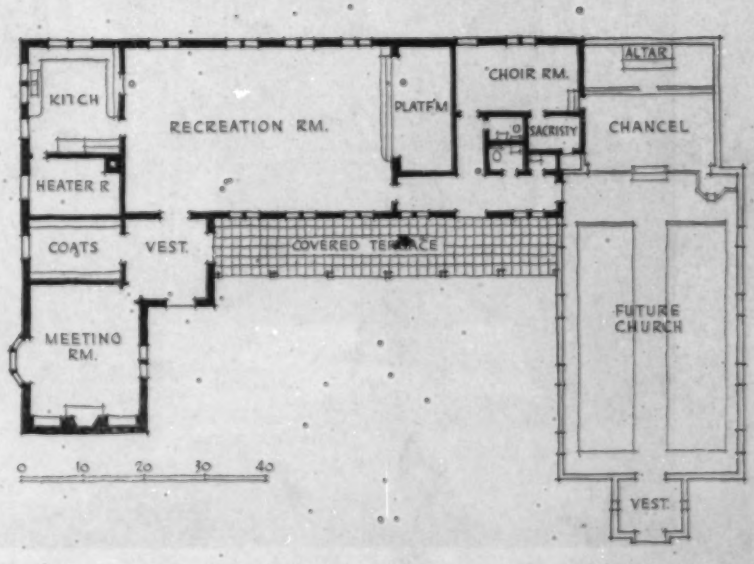
Church and Community Center

Hillsboro, Oregon

Sutton, Whitney & Aandahl,

Architects





URGENT NEED of increased recreational facilities for the young people of this lumber and farm center will permit the immediate construction of the community building of this two part project. The first unit, to be built up to an old church building now occupying the site of the proposed postwar church, will provide essential space not now available for dinners, meetings and social gatherings. Thus is this little church growing from one age into another, with significant extensions of its community responsibilities and also of its building requirements.

Because of war restrictions, lumber will be used in roof construction only. Concrete foundations; concrete floors at grade, covered with asphalt tile; 12 in. walls of variegated coral-pink brick, exposed on both interior and exterior surfaces, will be the materials used in its place.

The heating plant for the project will be forced hot air using sawdust as the fuel.

Estimated costs are: $20,000 for the community building, and $25,000 for the church.

NOTES ON POSTWAR SYNAGOGUE DESIGN

By Ben C. Bloch

Bloch and Hesse, Architects

TRENDS in synagogue architecture will be determined, as in the past, largely by the needs and the desires of the community and the congregation contemplating a new building. Doubtless in most cases the new building will be in one of the traditional styles. There may be some synagogues, as well as churches, in the modern functional style, but they probably will be few in number in the immediate future, because man's urge to build a place of worship is basically sentimental and emotional, inevitably linked to the past.

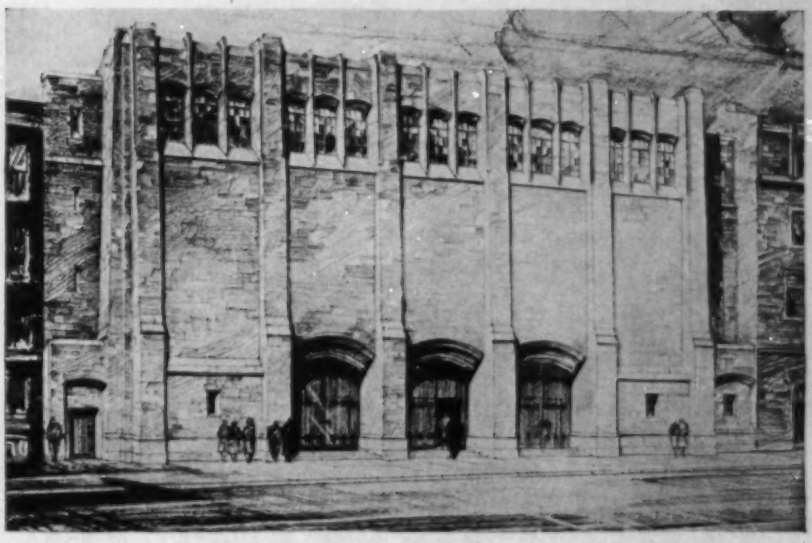
Due to curtailment of building during the war, there is accumulating a great number of synagogue projects which will proceed as soon as the government permits resumption of building. While the form of these buildings will probably be a free adaptation of the great styles of the past, the construction and the mechanical equipment will be as modern as the community can afford, incorporating the best practice in automatic heating and adequate and controlled lighting, and new interior finishes and equipment.

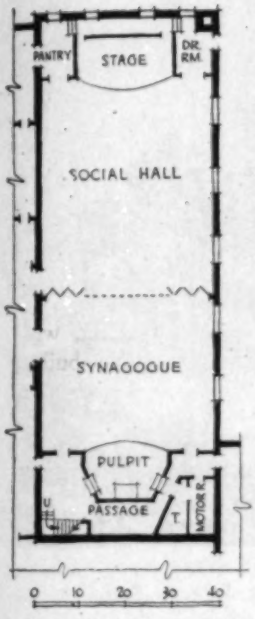
In most Reformed Congregations full attendance at the high holiday services of Rosh Hashana (New Year) and Yom Kippur (Day of Atonment) has always required greater seating capacities than are generally required for other services throughout the year. This problem has been solved in some recent synagogues by the simple expedient of locating the social hall so that it adjoins the synagogue, and permits the two auditoriums to be used as one by means of folding partitions. This doubles the seating capacity for the holidays. The removable seats in the social hall are merely reversed on these special occasions so that they face the altar of the synagogue instead of the stage of the social hall. This plan, or a variant, will doubtless be followed in many postwar synagogue buildings where the social hall is required and where the plot is large enough to permit.

Where the size of the plot is limited, as in most large cities, the plan may be one in which the synagogue is on the street floor with the social hall in the basement. The social hall naturally will be air conditioned and artificially illuminated so that it will have none of the former objec-

"In most cases the new building will be in one of the traditional styles," as was prewar Temple Beth El at Great Neck, Long Island; Bloch and Hesse, architects

Exterior view of a proposed synagogue the firm has designed for construction in New York City right after the war





During the high holiday services it will be necessary to increase the seating arrangements. This may be done "by locating the social hall so that it adjoins the synagogue . . . and permits . . . the two auditoriums to be used as one"

tions to such a location, such as poor ventilation and light. It will not, however, be possible to combine the social hall with the synagogue in such a plan due to the difference in floor levels.

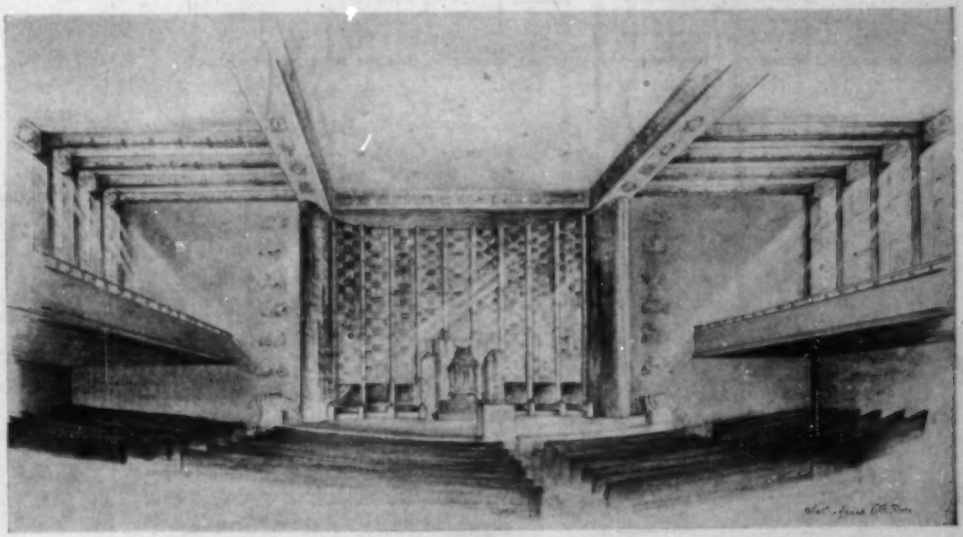
Most Reformed Congregations contemplating new buildings stress the need of adequate classrooms for their religious schools. These rooms usually will be located in an adjoining building where the lot permits, or in two or three stories above the synagogue where the plot is limited in size.

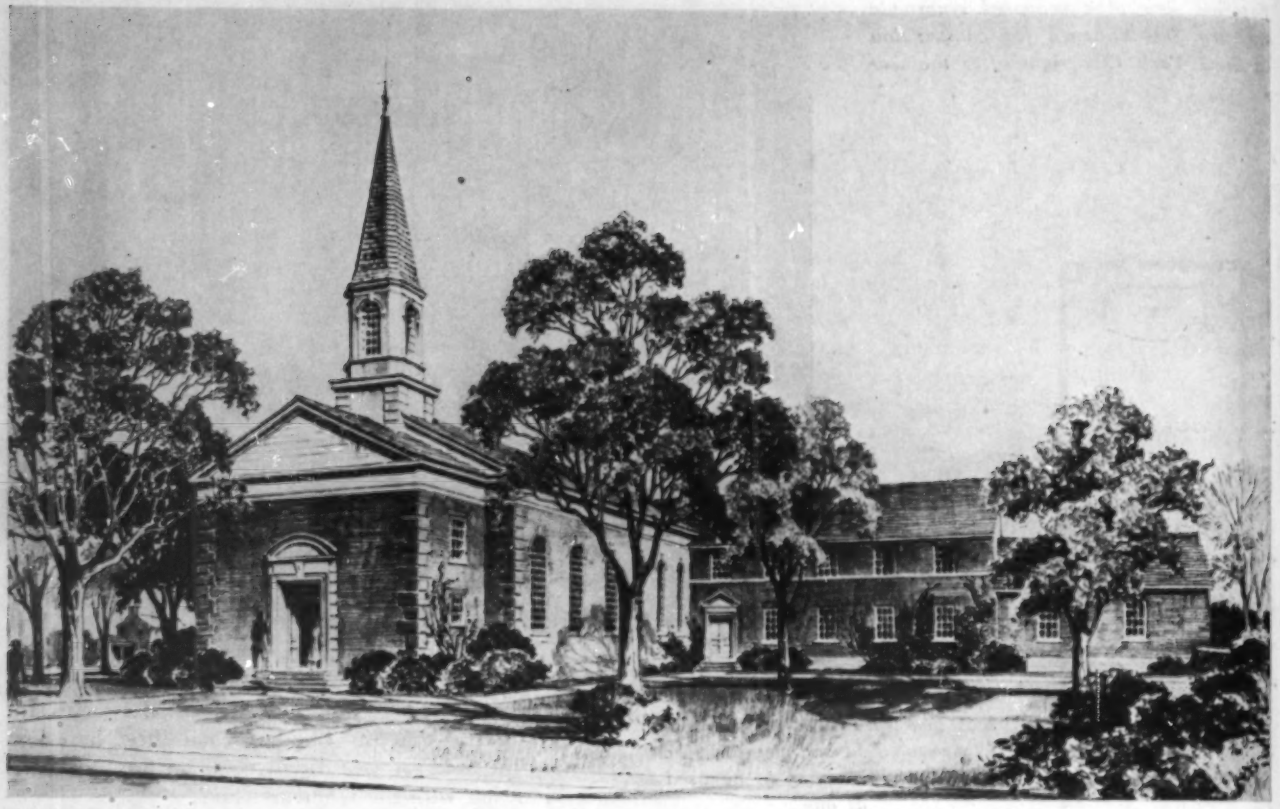
The structural problem of placing the classrooms over the synagogue in the latter case is readily solved by the use of trusses located in partitions of the classrooms immediately over the auditorium. Most building committees in discussing postwar synagogues have asked for classrooms of sufficient size to take care of forty pupils at a sitting with the possibility of sub-dividing these rooms by means of folding partitions into smaller classrooms for fifteen to twenty pupils. Building committees have emphasized the need for special classrooms for arts and crafts in conjunction with the religious school.

Other requirements for postwar synagogues are the religious school, separate rooms for various men's and women's organizations, although classrooms may be used by them where either space or budget are limited. A sizable kitchen, easily accessible for deliveries and on the same floor as the social hall, is usually required. The social hall stage should be well equipped, and of sufficient size to permit backdrops, border lighting, and offstage space for scenery; a concealed motion picture and sound projection room; space for storage of social hall chairs and tables; and ample, well-located coat rooms for men and women are all desirable. Most congregations desire an apartment for the caretaker.

The synagogue for Conservative Congregations will parallel those of the Reformed Congregations. The more orthodox, however, of which there are a great number, have indicated that they must retain in principle the arrangement of their prewar building.

Interior view of a large postwar synagogue design with extensive balconies





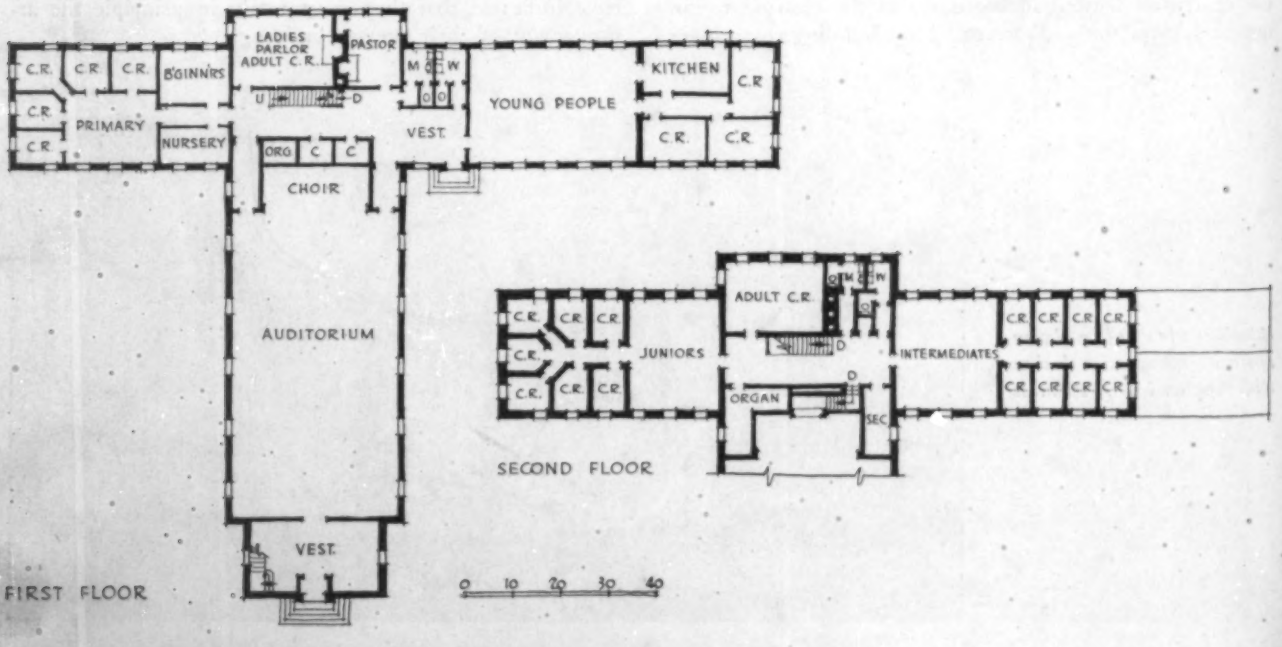
FOUR POSTWAR CHURCHES FOR THE SOUTH

Barber & McMurry, Architects

1. IMMANUEL BAPTIST CHURCH

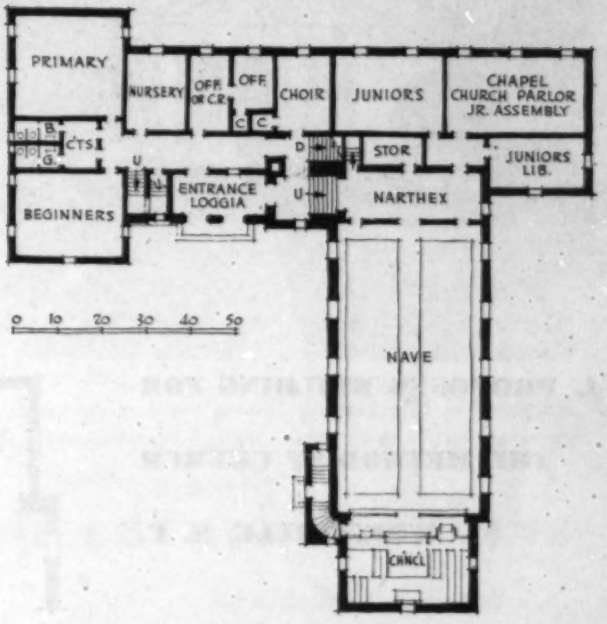
KNOXVILLE, TENNESSEE

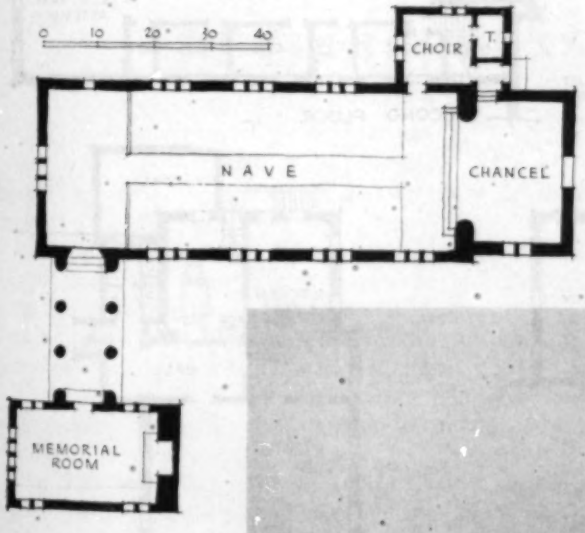
WHILE professional circles may debate the fine points of purpose and art and symbolism, there are also other circles discussing church design. In a building committee, modernism might be waved aside in favor of the practical problem of obtaining good design within some conservative area of styling. Here are four postwar designs for the South, of a type the typical building committee might approve—in fact they have been approved.



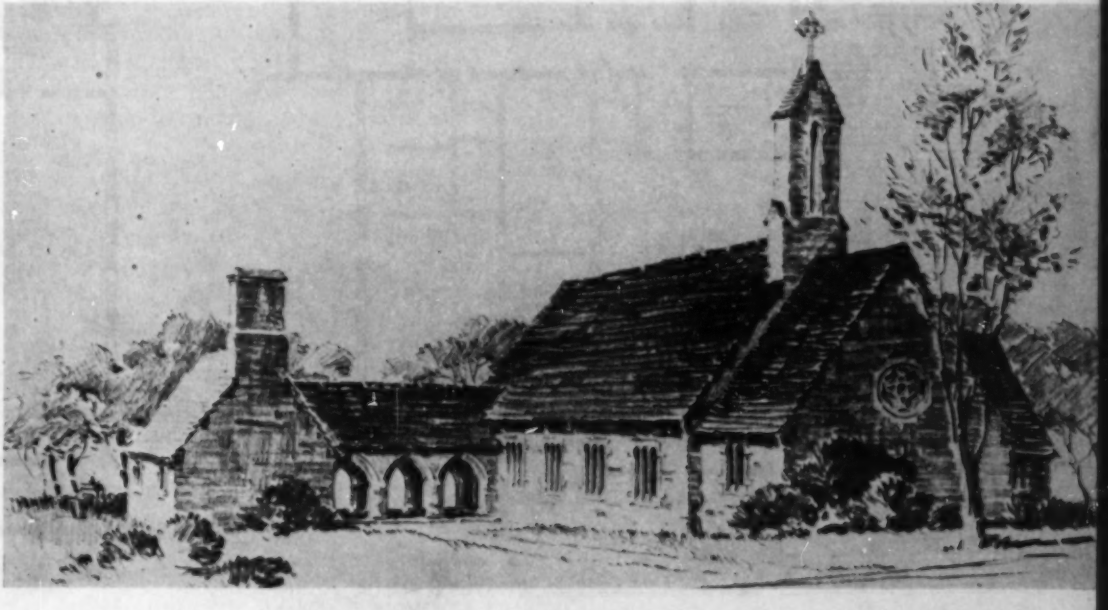
2. CHURCH PLAN FOR RESEARCH

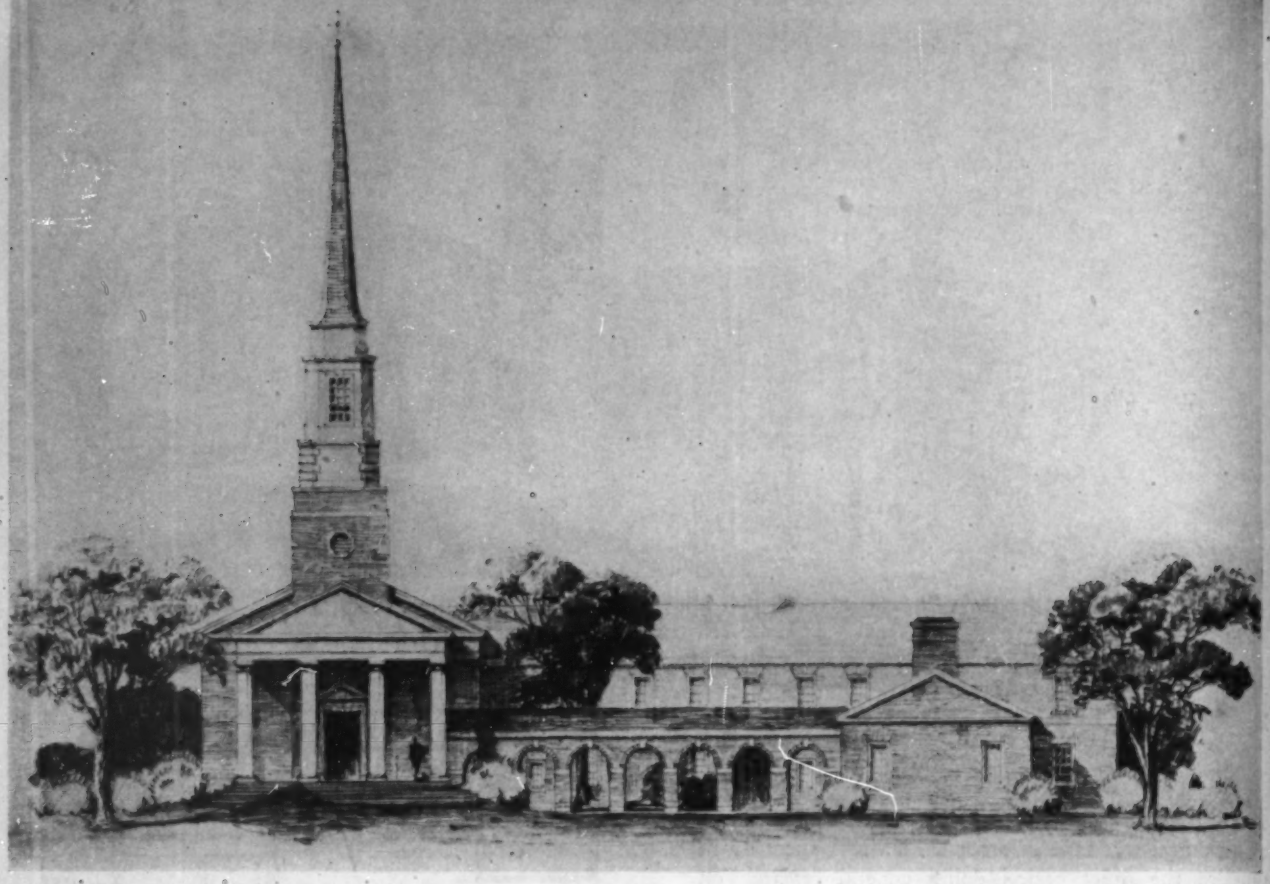
In cooperation with various denominational boards and architectural secretaries, Barber & McMurry spent much time in the quiet period doing general research on church design. Here is a suggested plan for a small Protestant church with modern facilities. Ground floor and second floor plans (not shown) provide a social hall and stage under the nave, kitchen, and dining room, and classrooms for intermediates and adults.





3. CHAPEL FOR METHODIST CHURCH LAKE JUNALUSKA, NORTH CAROLINA

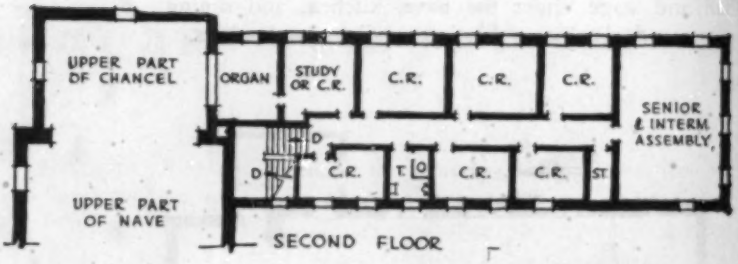


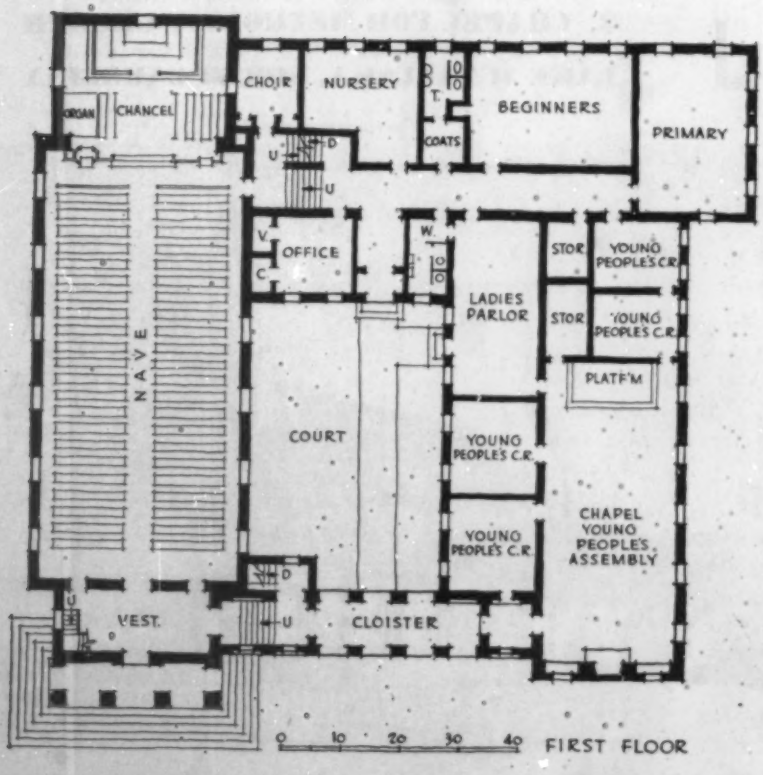


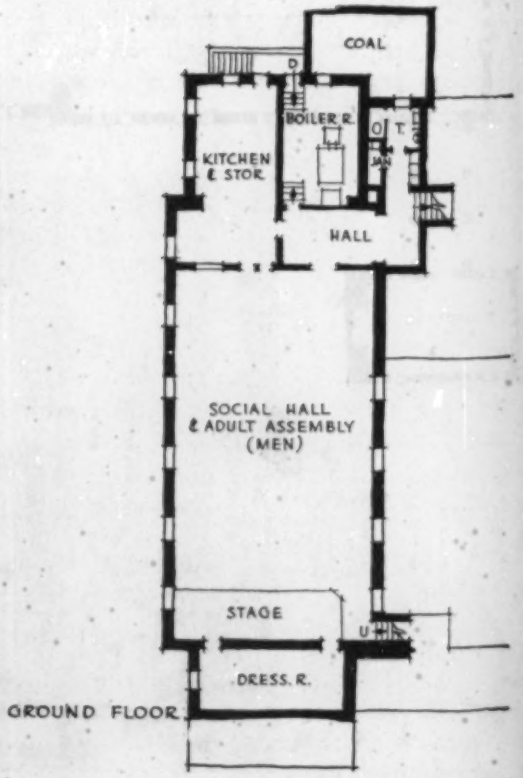
4. PROPOSED BUILDING FOR

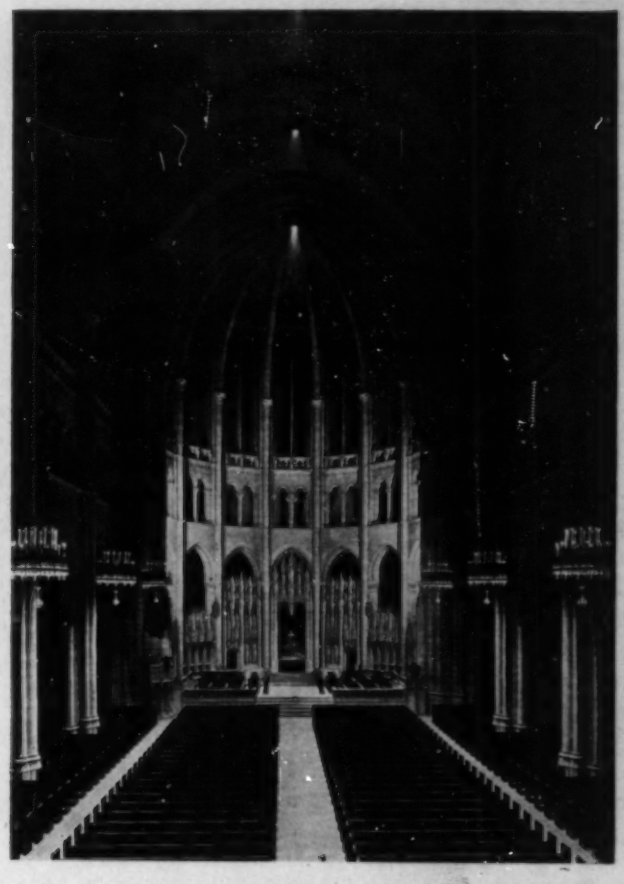
THE METHODIST CHURCH

WHITEVILLE, N. C.









Gottscho photos

Figure 1, left, shows the type of "general" lighting used in New York City's Riverside Church. Figure 2, right, with "specific" lighting added

REQUIREMENTS FOR CHURCH LIGHTING

By Edward Rambusch, I.E.

CHURCHES are artificially illuminated for three principal reasons:

First: To illuminate the sanctuary, chancel, and pulpit so that the clergy may be able to conduct and the congregation to follow the service with ease.

Second: To illuminate the pew area so that the congregation may be able to read with comfort.

Third: To beautify the interior by creating a light which will enhance the architecture and create an atmosphere conducive to meditation and prayer.

We used to consider the appearance of the lighting equipment of primary importance, but now the tendency is to give first consideration to its function.

With few exceptions, church interiors of today are still designed with the object of retaining the atmosphere prevailing in a traditional church building—and rightly so. Ruskin's "dim, religious light" is necessary to put a modern congregation at ease—just as it was in the Middle Ages. However, the important difference between the Middle Ages and today is that nowadays all congregations take part in the service and are expected to read.

It is quite natural that the architect should wish to have a lighting installation which gives soft light, even allowing some parts of his architecture to be in shadow; but the engineer can prove that a greater amount of light is needed for the congregation to read without eye strain.

I believe our best present course is to install two separate kinds of light, entirely different in quantity as well as distribution, but still so composed that either can be used with perfect results both alone and also in combination with the other. Call one "General Light" and the other "Specific Light." One is emitted to give soft light throughout the interior (about two foot-candles), enough to enable people to enter and leave, with no visible brightness to distract the congregation during sermon or choir singing. The other, "Specific Lighting," would be concealed and controlled to deliver light in the proper quantity, direction and distribution when and where reading is to be done or attention directed. Most of this light should be projected in a generally downward direction in order that when not intercepted by a printed page or sheet of music, it disappears between the pews or is absorbed in the floor before it can be reflected in sufficient amounts to substantially increase the already existing general light. One set of such lights should give an intensity of about ten foot-candles *on a horizontal surface* throughout the pew area and it should be used only when the congregation is expected to read.

Another set of specific lights giving beams of limited spread should be focused on pulpit and lectern. These

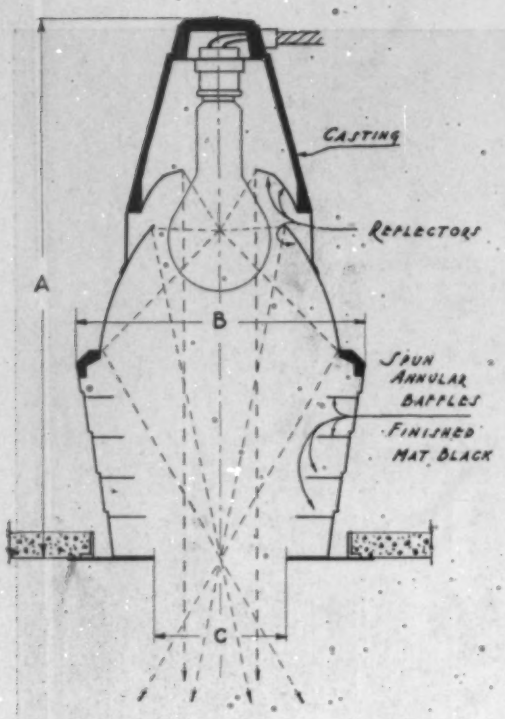
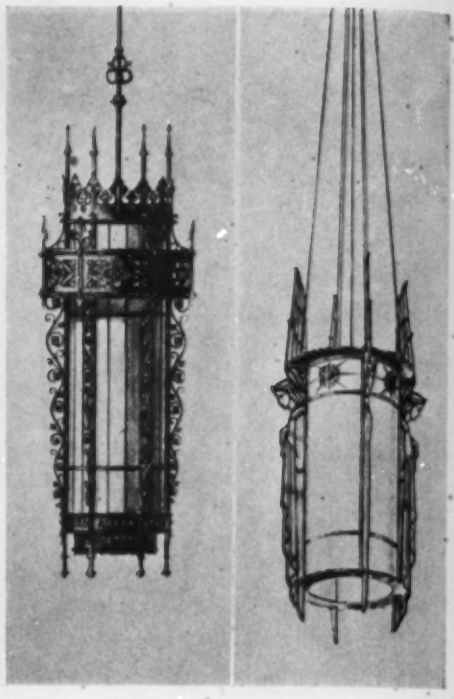


Figure 3, left: sectional view of typical downlight showing how reflector surfaces direct most of light down through aperture



Figures 4 & 5, right: the wrought iron fixture that costs about ten times the compressed board type gives the same practical result

should preferably be out in front and inclined at an angle of 45° or steeper so as to throw light on the face of the preacher while also giving him a reading light. In churches where the choir is seated in the chancel or sanctuary, a separate set of specific lights should be provided. It should be projected downward in a manner similar to the light over the pews and controlled so as to be in operation only when the choir is functioning.

Finally, the most important specific light is that on the altar where we must not only provide shadowless reading light for the clergy, but also light up the altar, reredos and sanctuary generally.

The four objects for specific light then are: (1) Pew Area; (2) Pulpit and Lectern; (3) Choir; (4) Sanctuary.

It is highly desirable to have the greatest possible degree of control for each source of specific light and in planning an installation dimmer control should be contemplated.

It may be said that an installation as sketched above is beyond the means of the average church and it is true that the vast majority of American churches get along with much more primitive means. However, there is nothing to prevent a church from planning a complete installation and installing only the most essential elements until the necessary funds are available to permit completion.

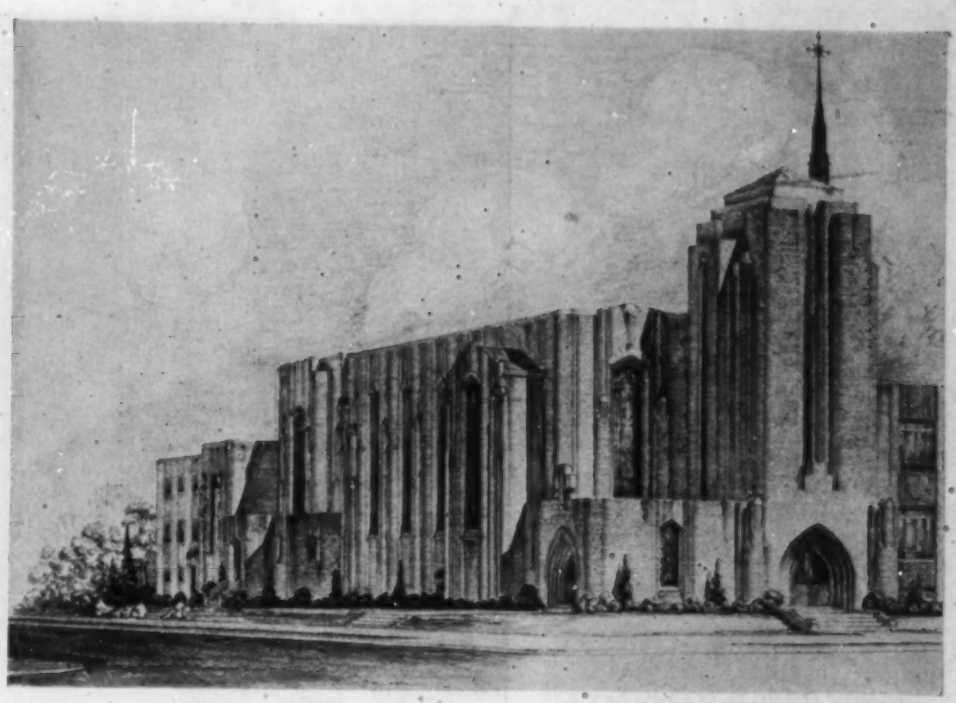
One excellent example of a carefully planned, yet incomplete lighting installation may be seen in the Cathedral of St. John the Divine in New York City. Here is a church built to last for centuries. The wiring installation concealed within the masonry is of the most durable materials, but the lighting equipment for nave and chancel consists of plain parchment cylinders, open top and bottom, each containing an inside frosted lamp of sufficient wattage to serve the purpose. Three-hundred-watt lamps were sufficient for the majority of fixtures, with 200-watt lamps being used in the side lights. This lighting permitted the nave to receive about five foot-candles at pew level, the chancel receiving about eight. In due course, when the lighting needs of this building can be better analyzed and as funds may become available, lights of a more permanent type (and possibly with application of lighting principles not yet known) may be installed.

In presenting the case for providing churches with "General" as well as "Specific" lighting, I am very conscious of the fact that this does not represent the ultimate in church lighting and that better lighting means of the future may bring about other thoughts on the subject. There is, however, one point worth noting. We have in America a vast number of churches which have "General" lighting installations of great merit when viewed as metal craftsmanship but which do not meet modern lighting requirements. Those churches may be able to benefit by adding equipment for providing specific lighting for pews, pulpit, choir or sanctuary. A good example is in the Riverside Church, New York City, where the original lighting installation consisted principally of ten very fine chandeliers; however, only about one-half foot-candles were available at pew height. As will be seen in figure 1, the shadows among the pews indicate that the reading light for the congregation is inadequate, particularly near the center aisle. Along the axis of the nave vaulting are a series of bosses each having a venthole in its center. A set of projectors was concealed inside these bosses and light beams thrown down over the pew areas to give the distribution shown in figure 2. This set of 1,000-watt projectors added about four foot-candles of light at the pew level, and additional concealed fixtures produced from ten to twelve foot-candles in the chancel. Note that in spite of the great increase of light, the general appearance of the church has not varied appreciably.

Much of the work to be done in the near future will be in the renovation of existing churches, and here, I believe, is a field where supplementary "specific" lighting is a natural as well as an economical solution to the problem of providing better light.

When it comes to designing equipment, the lighting industry is already equipped to supply "Specific" lighting units for all purposes, but there is still scope for developing

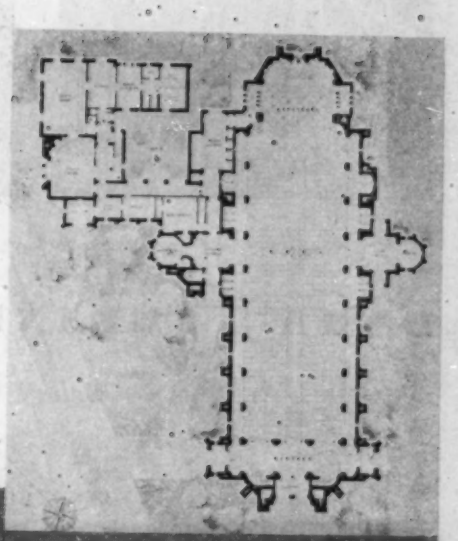
(Continued on page 132)



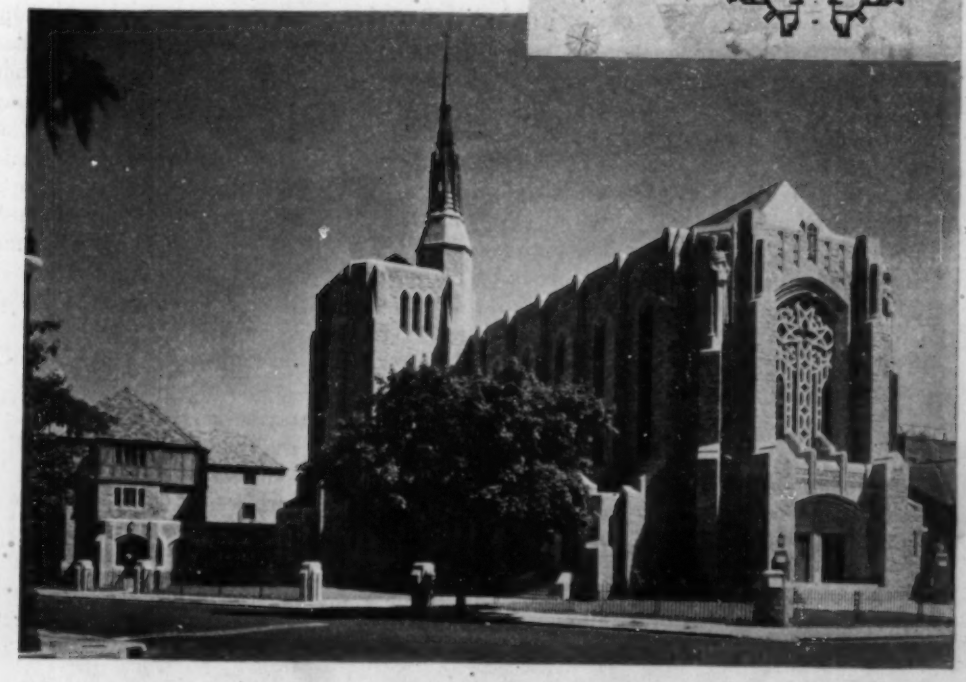
Rendering of the church of a proposed group of buildings for Parish of St. Athanasius, Bay Parkway, Brooklyn, N. Y.

TWO CATHOLIC CHURCHES PREWAR AND POSTWAR

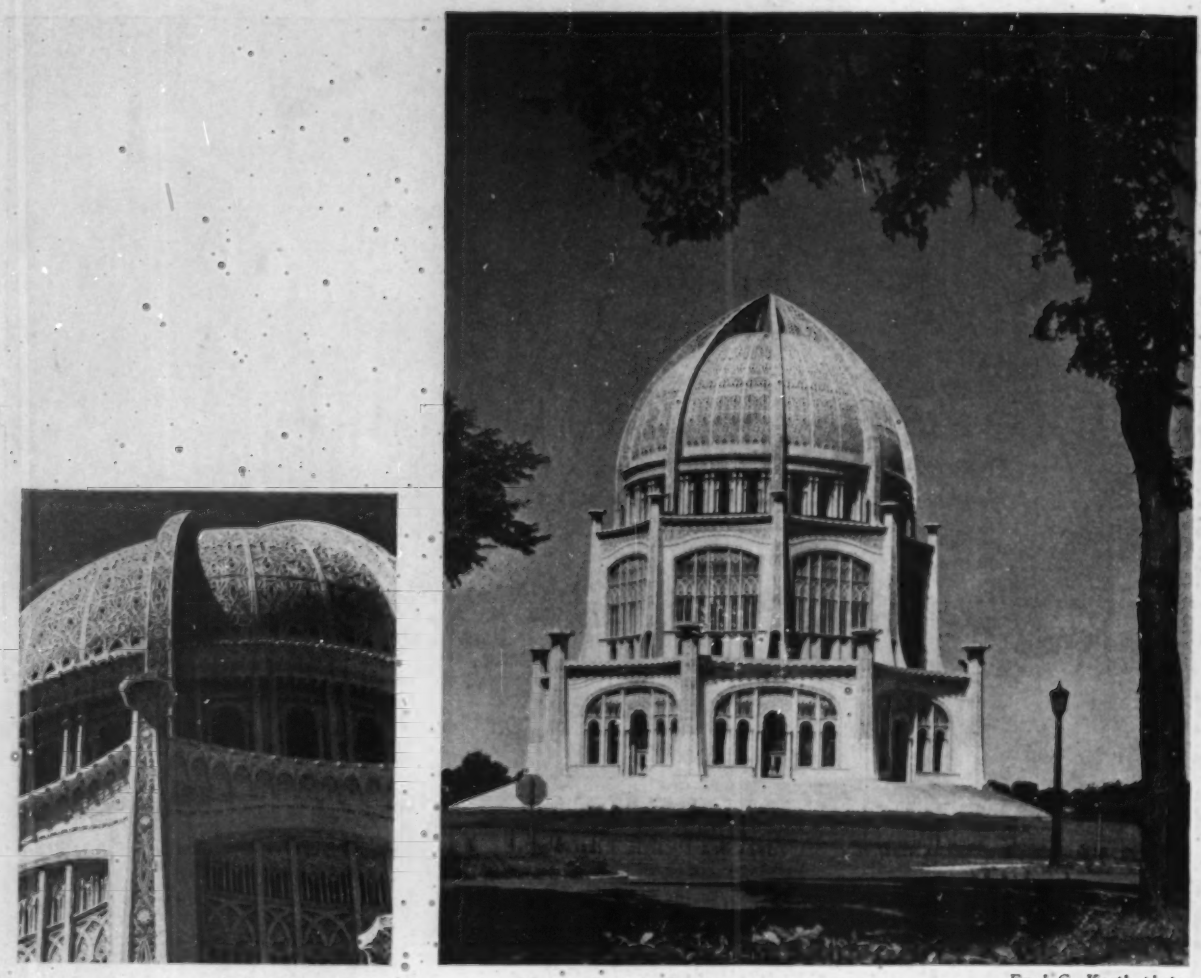
Henry V. Murphy, Architect



THE RENDERING above shows one of several large churches for which this architect is completing working drawings, for construction right after the war. It represents only the church portion of a group of buildings for the Parish of St. Athanasius, Brooklyn. Below is a recent example of Catholic church work by the same office before the war.



Church and Rectory of Our Lady of Refuge, Brooklyn



Fred G. Korth photos

BAHA'I SHRINE FOR THE WESTERN WORLD

Baha'i Temple, Wilmette, Illinois; Louis J. Bourgeois, Architect

ALTHOUGH this temple—only one of its kind in America—was finished in 1942, its plans were prepared more than twenty years ago, and construction actually began in 1921. The architectural design was decided upon at a convention of Bahá'ís in 1920, when the late Louis J. Bourgeois presented his design in a large plaster model.

The temple is not primarily a meeting place of a local congregation, but a central shrine for the followers of Bahá'u'lláh in North America. The faith was founded in Persia in 1863, with a doctrine of universality of religion for all races and creeds; the Temple's nine sides symbolize the world's nine chief religions. The faith received its first impetus in this country in 1893, at the Congress of Religions at the Columbian Exposition. Gradually an occidental group was formed, and the temple project was conceived soon after 1900 and actually began with the purchase of the site in 1908.

"In the solution of the unique problem set for him in designing this house of worship of a world faith," says an official description of the Temple, "the architect has been less the conventional draftsman than the sculptor. . . . Having designed the structure, the architect then proceeded to treat each wall as if it were a facet for the transmission of radiant light from the sun to the interior, and from illumination inside the temple to the world at night. The outer surface is, in reality, a series of patterned windows, for the physical function of wall has been transferred to pylon, tower, rib, and column. . . ."

All nine sides of the building are alike, with a central doorway flanked on either side by two ornamental windows and enclosed with a flat arch. At the intersection of the sides is a pylon or minaret. Faces of the main and gallery stories are concave, and, with the pylons, are symbolic of extended arms. The first story is 36 ft. high, on a circular foundation, with 18 steps leading to the main floor; the second story, 45 ft. high, is offset from the first, so that the second-story buttresses impinge against the tops of the curved main story faces. To the top of the dome the structure is 161 ft. high.

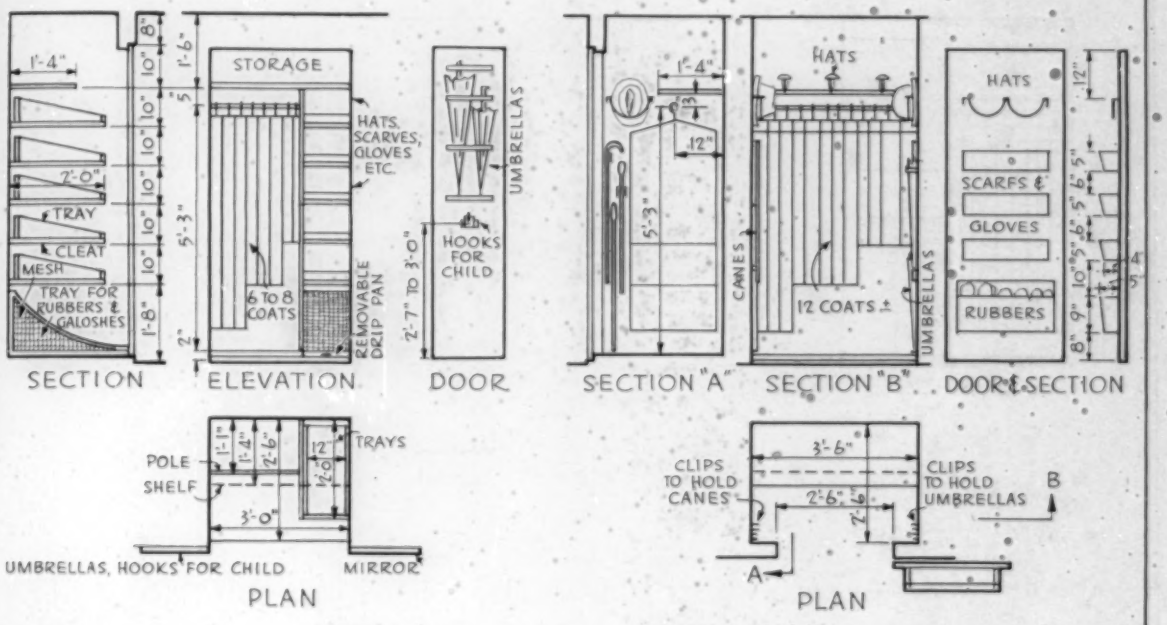
Precast architectural concrete slabs were a very logical means of executing the lace-like, open ornamentation, which would be terribly expensive in any other material. The concrete is made with white portland cement and quartz chips. The slabs were cast over a period of ten years, as financing became available, in the studios of John J. Earley.

HOUSEHOLD CLOSETS, PART III

Hall Closets

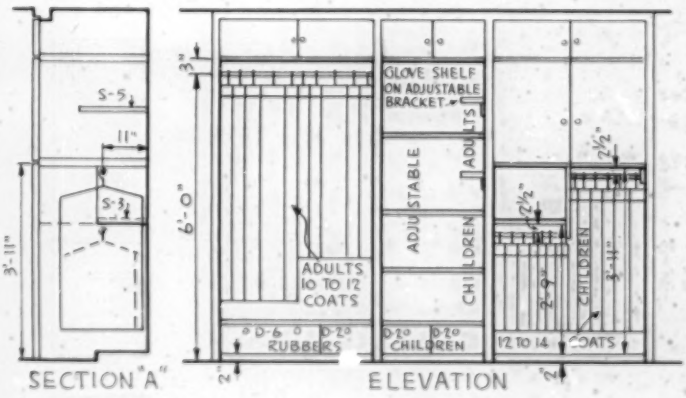
Research by Larch Renshaw, A.I.A.

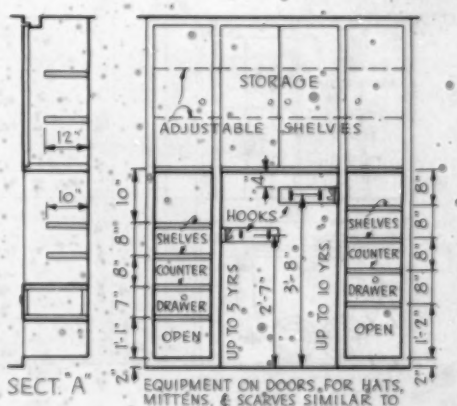
ARCHITECTURAL RECORD
TIME-SAVER STANDARDS
SEPTEMBER 1944

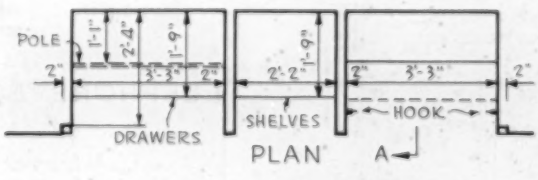


HALL CLOSET

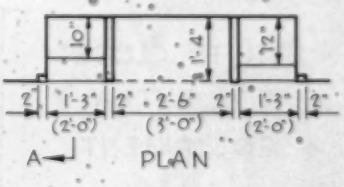
HALL CLOSET (MODERNIZED)







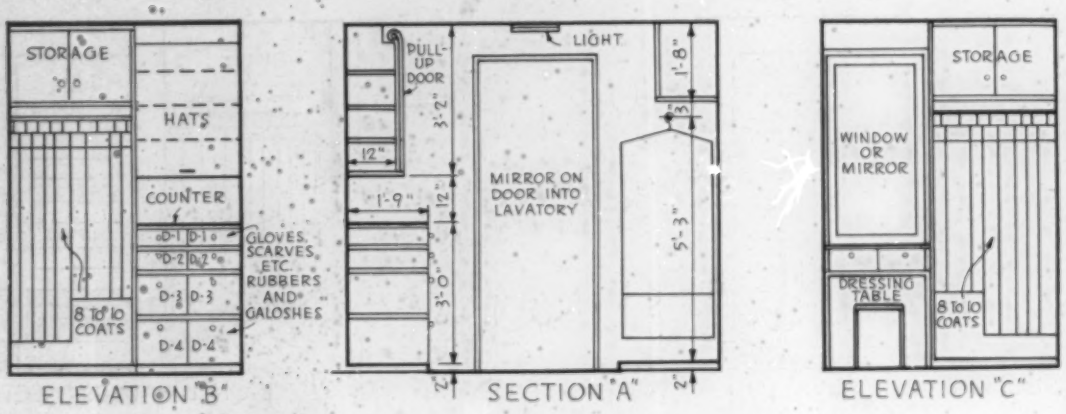
THREE-COMPARTMENT HALL CLOSET



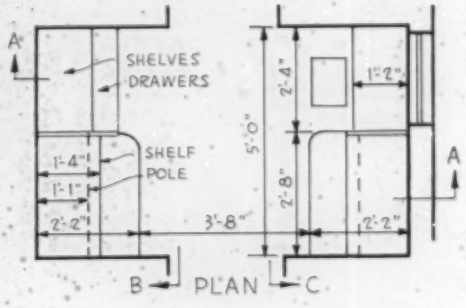
HALL CLOSET FOR SMALL CHILDREN

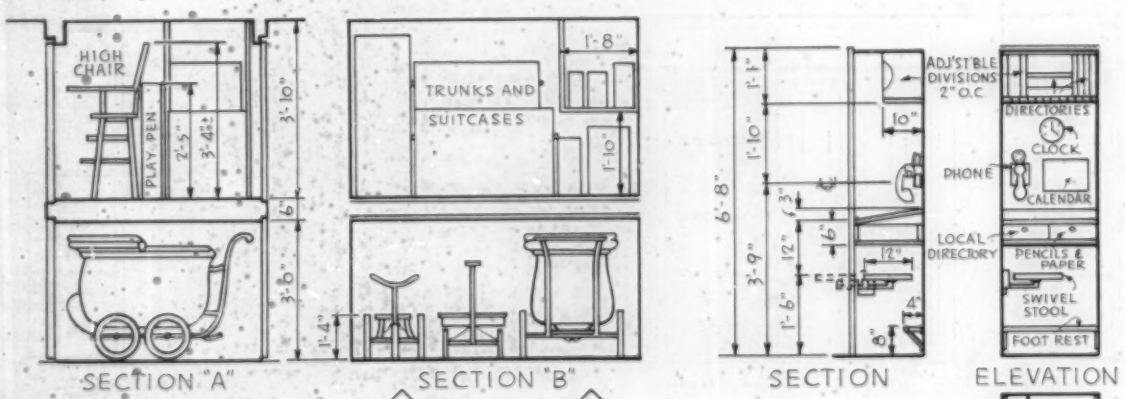
HOUSEHOLD CLOSETS, PART III

Hall Closets (continued)

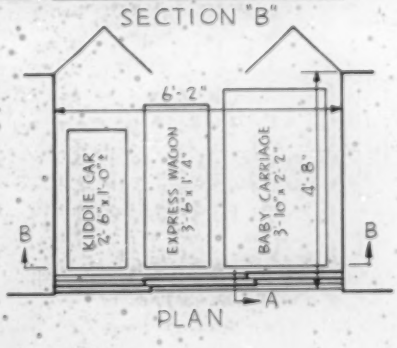


WALK-THROUGH HALL CLOSET (FAMILY & GUESTS)





UTILITY CLOSET FOR EXTRA EQUIPMENT



TELEPHONE BOOTH

Designed by Albert Kahn, Associated Architects and Engineers, Inc.

Nature made Asbestos

HERE'S HOW KEASBEY & MATTISON IS MAKING IT SERVE WARTIME CONSTRUCTION

This plant does a big job for America . . .

"Century" APAC DOES A BIG JOB FOR THIS PLANT

Above is a section of a gigantic project . . . one of the nation's leading war plants. Nearly a *million* square feet of K&M "Century" Apac sheet material is serving this mighty plant. "Century" Apac is even used for ventilating ducts . . . making possible a saving of approximately six hundred and fifty tons of critical metal. Immense quantities of "Century" Apac have gone into wartime construction. Yet despite this, "CENTURY" APAC IS AVAILABLE TO YOU NOW . . . PROMPTLY AND WITHOUT RESTRICTION.

"Century" Apac is the *modern* Asbestos-Cement structural sheet . . . fireproof, weatherproof . . . easy to handle, cut and fasten with nails or screws. Moderate in cost, it requires practically no maintenance. Whether you're planning for factory or home—either renovations or new building—you'll plan for permanence when you include K&M "Century" Apac for sheathing inside and out.

● For further information on the handling and application of K&M "Century" Apac, write us now.

FEATURES OF "Century" APAC

1. Made of Asbestos Fibre and Portland Cement
2. Pleasing light gray color
3. Fire resistant and durable
4. Convenient size—4' x 8', 4' x 9' and 4' x 10'
5. Low cost
6. Rat and termite proof
7. Easy to cut, handle and apply
8. Fastens with nails or screws
9. Practically no maintenance required
10. Prompt delivery

Our Ambler plants proudly fly the Army-Navy "E" flag with its star—an honor awarded K&M employees "for continued outstanding production of war materials."

KEASBEY & MATTISON

COMPANY • AMBLER • PENNSYLVANIA

 (Continued from page 16)

tural design, descriptive geometry and the history and theory of architecture. Related courses in psychology, sociology and economics supplement the program.

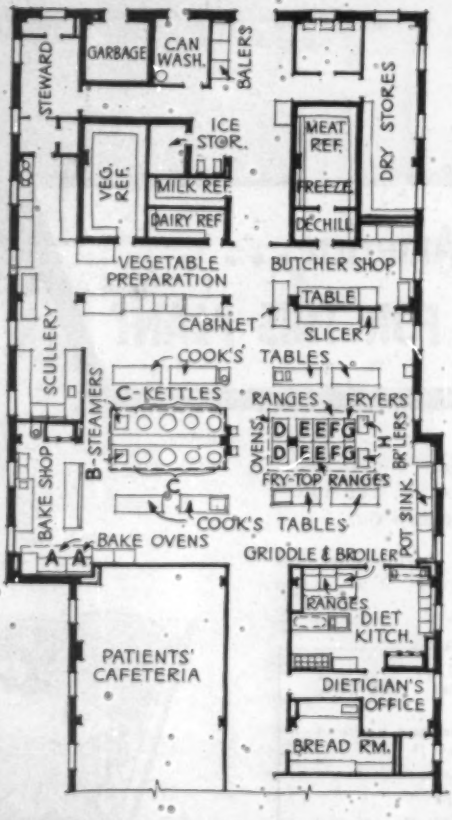
The new term begins September 28th.

New Course

A course in Principles of City Growth and Structure has been added to the curriculum of the School of Business, Columbia University. Beginning on October 4, and continuing to January 24, the course will be given by Dr. Homer Hoyt. It will consist of an analysis of the evolution of the patterns of land use in American cities, residential, commercial, industrial, recreational; a discussion of master plans for guiding and regulating the patterns of urban land use in the future. For further information address the Director of University Extension, 561 W. 116th St., New York 27.

KITCHEN PLAN NO. 15: Fifteenth of a series of successful mass-feeding kitchen plans.

This typical plan for a training station medical unit can handle more than 2,000 meals, and is ideal for standard hospital and institutional practice.



KEEP FOR HANDY REFERENCE!

COOKING EQUIPMENT USED:

(a) 2 No. 932 BLODGETT GAS-FIRED BAKING OVENS
(b) 2 Vegetable steamers
(c) 8 Stock kettles
(d) 2 No. 909 BLODGETT GAS-FIRED ROASTING OVENS
(e) 3 Fry-top skeleton ranges
1 Fry-Top range
(f) 2 Open-top ranges
(g) 2 Fryers

Designed by:
J. J. Leshen, Manager, Kitchen Equipment Div. H. Friedman and Sons, N. Y.

THE TWO NO. 909 BLODGETT ROASTING OVENS, and the two No. 932 Blodgett Baking Ovens, tied in with correctly designed units, give great flexibilty and ease of operation. For details and specifications of Blodgett Ovens, consult your equipment house or write

The G. S. BLODGETT CO., Inc.

53 Maple Street — Burlington, Vt.

Reprints of this new series will soon be available to architects on request.

MORRISANIA HOUSES

The architects' plans for Morrisania Houses, one of the projects on the New York City Housing Authority's low-rent housing program, have been filed with the Department of Housing and Buildings.

The architects working on the project are Delaney and O'Connor, Aymar Embury II, and Matthew W. Del Gaudio. Their plans are for 14 residential buildings in six and 13 story heights, with 1800 apartments to provide homes for an estimated 6996 persons.

Morrisania Houses will be built in the Bronx, in the area bounded by Morris Ave., E. 146th St., 3rd Ave. and E. 139th St. State loan funds are available for the development cost, and state and city subsidies will keep the rents low.

EXHIBITION

On view in the City Art Museum, St. Louis, until September 18 is a group of architecture and decorative arts by Victor Proetz. The exhibition consists of furniture, textiles, pewter, glass and prints, designs for architecture and decorative arts and photographs of completed work covering the whole field of domestic architecture and design.

POWER SHOW

Announcement has been made that the 16th National Exposition of Power and Mechanical Engineering will be held in Madison Square Garden, New York City, from November 27th to December 2nd. As usual, the exposition will be open by invitation and registration to visitors directly associated with power and production operations, but closed to the general public.

PUBLIC LIBRARY IN SCHOOL?

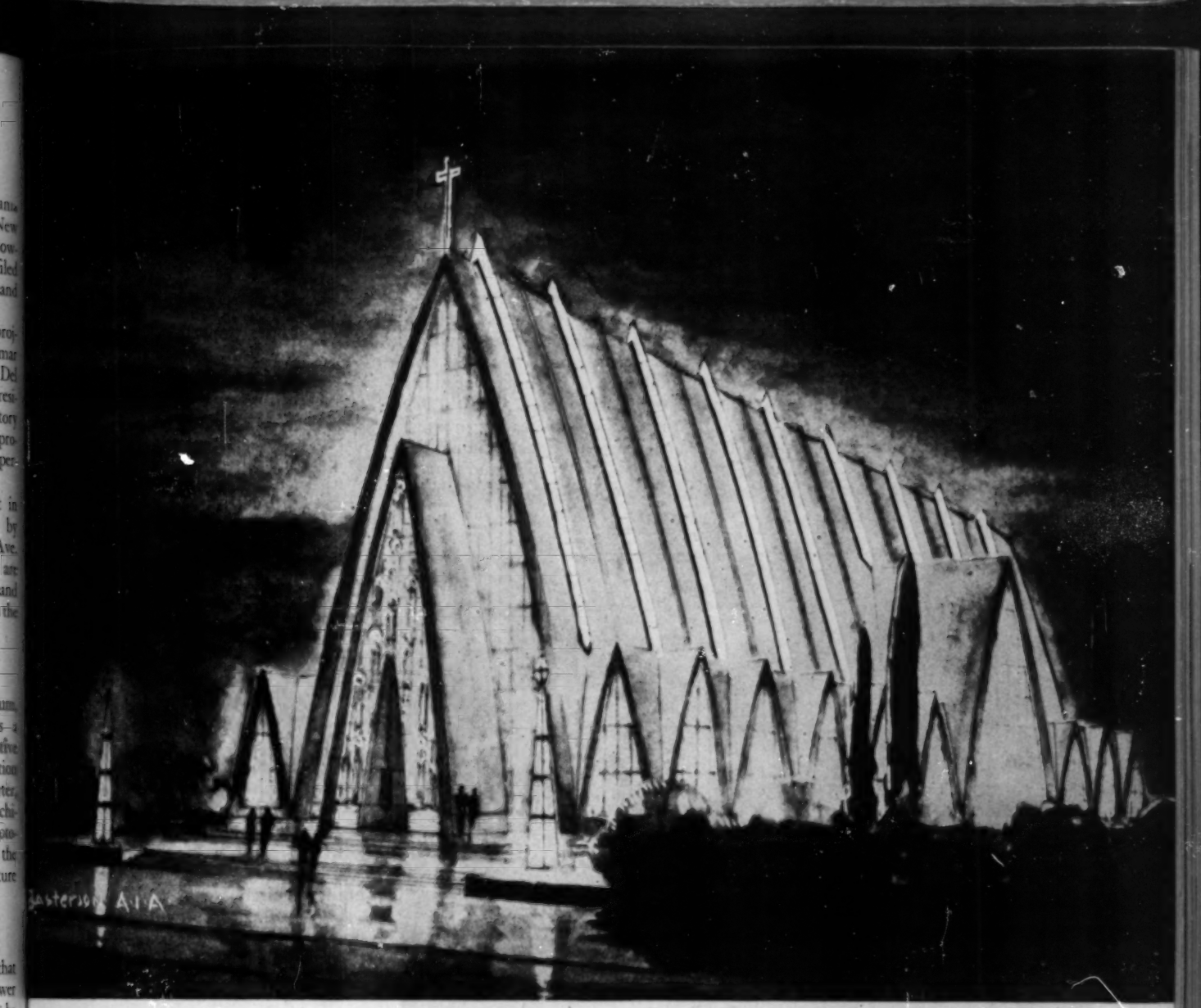
The joint committee of the Ohio Library Association and the Ohio Education Association has prepared a statement in regard to the location of a public library in a school building.

Pointing out the advantages and disadvantages of such library placement, the committee refrains from taking a stand on the desirability of it, but if the library is placed in the school building "strongly recommends adherence to the following specifications:

"1. The space should be adequate both for adult and student library patrons.

"2. Separate reading rooms should be provided for adults and pupils. Especially should no adults be expected to use a reading room which serves as a study hall for pupils nor should

(Continued on page 118)



PLASTICS IN CHURCHES

The General Electric Company offers architects, designers, and engineers the service of its plastics technicians. These experienced men can give you technical advice and information on the use of all plastics materials—laminates, compression, injection and extrusion molded, low pressure and cold molded. The General Electric Company molds and fabricates all kinds of compounds that are on the market today and because of this is not limited to one particular material or manufacturing process. For further information write section C-292, One Plastics Avenue, Pittsfield, Mass.

The following list suggests the possible applications of G-E plastics in modern churches:

WALL SURFACING MATERIALS ● PARTITIONS ● DOORS ● FURNITURE ● HARDWARE ● LIGHTING FIXTURES ● ELECTRICAL SUPPLIES AND PANEL BOARDS ● SPECIAL PARTS

Hear The General Electric radio programs: "The G-E All Girl Orchestra" Sunday 10 P.M. EWT, NBC, "The World Today" news every weekday 6:45 P.M. EWT, CBS.

FIFTY YEARS IN THE PLASTICS INDUSTRY

GENERAL ELECTRIC

PD-298

INSURE YOUR FUTURE BY BUYING WAR BONDS AND SAVING THEM

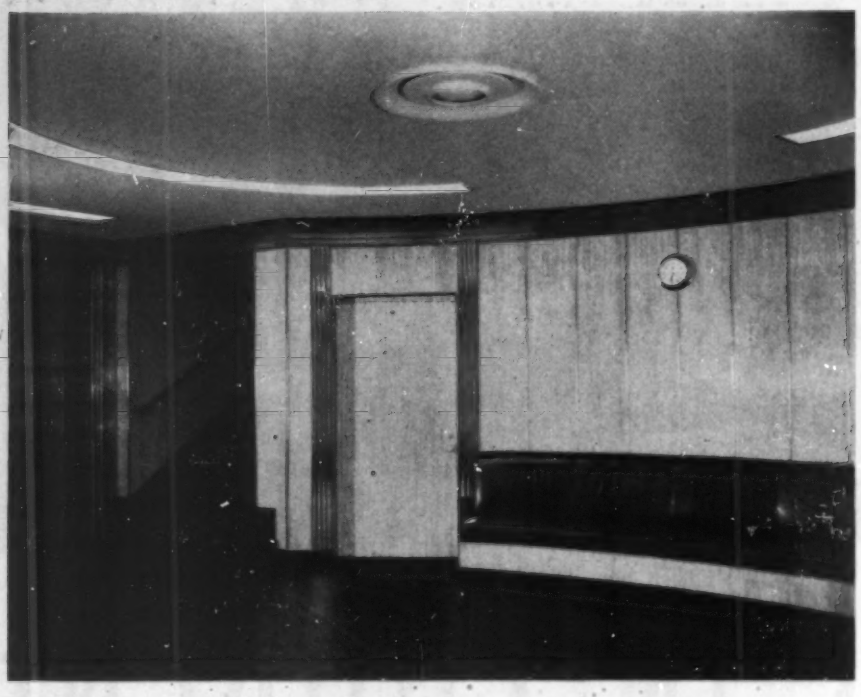
 (Continued from page 116)

the adult reading room be used for class purposes while open to adult readers.

"3. The adult library reading room should be designed so that it can be efficiently operated as a separate unit at times when school is not in session. This requires unit heating and ventilating, toilet facilities in or near the library portion of the building, a separate outside library entrance, and a gate or other means of preventing access to the main part of the building from the library.

"4. The adult library room should be easily seen and easily accessible from the street. The approach and entrance should be well lighted at night, and there should be a minimum of stairs to climb from the street.

"5. In addition to reading rooms, two small enclosed rooms should be provided, one for the librarian's office and the other as a work and supply room. There should also be facilities for conferences and other desirable purposes."



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FOR GUARANTEED RESULTS

Data based on complete tests enables us to recommend exactly the right outlet for any condition and GUARANTEE results. You are assured of uniform, properly diffused air of the desired temperature at specified level, with required air movement and elimination of hot, cold, or drafty areas. Use ENGINEERED AIR DISTRIBUTION — see your Barber-Colman representative. Write for descriptive bulletins.

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LANGLEY SCHOLARSHIPS

Since the announcement last year that no awards of the Edward Langley scholarships would be made in 1944, it has come to the attention of the A.I.A. Board of Directors that there are, possibly, projects that could be carried out without interfering with the war effort. Accordingly, proposals may be submitted to the Committee on Awards and Scholarships in time for action by that committee prior to a special meeting of the Executive Committee of the Board on September 22.

These scholarships are awarded for advanced work in architecture. They are open to all residents of the United States and Canada who are engaged in the profession of architecture: architects, architectural draftsmen (including specification writers, supervisors and executives), and teachers and students in architecture.

Awards will be made upon a competitive basis from the standpoint of the character, ability, and need of each candidate; the purpose of the grant; potential contribution to professional knowledge or welfare; and amount of grant required.

For further information and proposal forms, address The American Institute of Architects, 1741 New York Ave., N. W., Washington 6, D. C.

I.E.S. CONFERENCE

Recommendations for the lighting of many phases of postwar living, based on the findings of leading authorities, will be an important feature of the Technical Conference of the Illuminating Engineering Society in Chicago, September 14-16.

NEW OFFICES

Donald G. Smith

Donald G. Smith has announced the reopening of offices for the general practice of architecture, alterations and postwar plans. Address 1101 Lincoln Rd., Miami Beach 39, Florida.

Harry Preble, Jr.

Harry Preble, Jr., industrial designer, announces the opening of a studio for the design and development of consumer, commercial and industrial products. Address: 104 E. 40th St., New York 16, N. Y.

John R. Weber

John R. Weber, architect, has reopened offices at 415 Lexington Ave., New York 17, N. Y.

(Continued on page 120)

The New World... Ahead

THE Spirit of America goes forward courageously. Men and materiel . . . money and machines . . . hardship and heartaches . . . tears and turmoil . . . are all part of the price that is being poured out that our institutions and our way of living may be perpetuated.

When the glorious light of Peace comes on again . . . all these precious values for which we are fighting must go on to even greater heights than ever before. This will bring opportunity to plan and design . . . to create . . . to use the technological achievements of the War Period for the betterment of humankind.

New schools will be required . . . . hospitals, health centers, libraries, municipal, state and federal buildings, hotels, factories and homes. All this is opportunity for the architect.

When men and metal are mustered out . . . GF will again build chairs, desks, tables, files, cabinets and other equipment items that will combine past experience with current progress for *the New World that lies ahead.*

THE GENERAL FIREPROOFING COMPANY • • • *Youngstown 1, Ohio*

THE RECORD REPORTS (Continued from page 118)

Sydne Schleman

Sydne Schleman, architect, has reopened his offices at 59 North St., Middletown, N. Y.

New Partnership

Charles DuBose and Robert DuBose Burbank announce the formation of a partnership under the firm name of DuBose and Burbank for the practice of architecture and industrial and commercial design. Address: 51 E. 42nd St., New York 17, N. Y.

JOHNSTON TO ADDRESS HOME BUILDERS

Eric Johnston, president of the U. S. Chamber of Commerce, will address the National Association of Home Builders of the U. S. at their Fall Conference in Washington, September 25th. His talk on "New Horizons for the Construction Industry" is expected to set the pace for the week-long conference, and to sound the keynote of the vital part that home builders must play in the transition and post-war period. Other speakers scheduled to address the meeting include NHA Administrator John B. Blandford, Jr., and FHA Commissioner Abner H. Ferguson.

SCHOOL PLANNING

The National Recreation Association, 315 Fourth Ave., New York 10, has issued a pamphlet on "Planning School Buildings for Community Recreation Use." Compiled in cooperation with the American Association of School Administrators, the folder comprises seven basic principles and eleven suggestions for their carrying out.

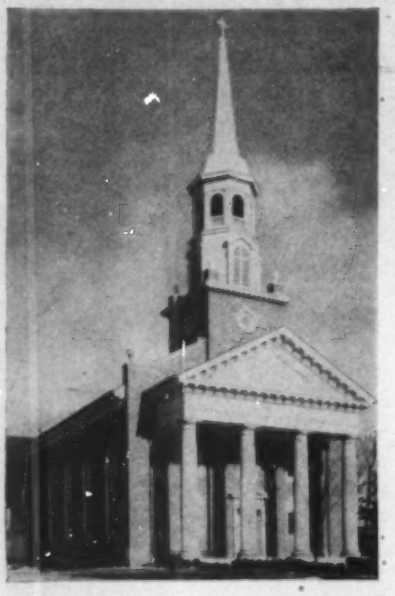
FHA LOANS

Another booklet of interest to architects is "Here's How to Make Sales and Satisfied Customers with FHA Title I Loans," recently issued by the Federal Housing Administration.

To be distributed only through qualified lending institutions, the booklet aims to inform the dealer how to use Title I correctly and to acquaint him with certain responsibilities which he must assume in operating under Title I Regulations effective July 1, 1944.

Part I of the booklet, "Facts About Title I Loans," contains such essential information as the maximum loan amounts, terms and finance charges allowed under the Title I program, and a discussion of the types of jobs which are eligible for this kind of financing. Part II, "The Dealer's Responsibility," stresses the need for sound, ethical selling practices.

(Continued on page 122)



Electronics

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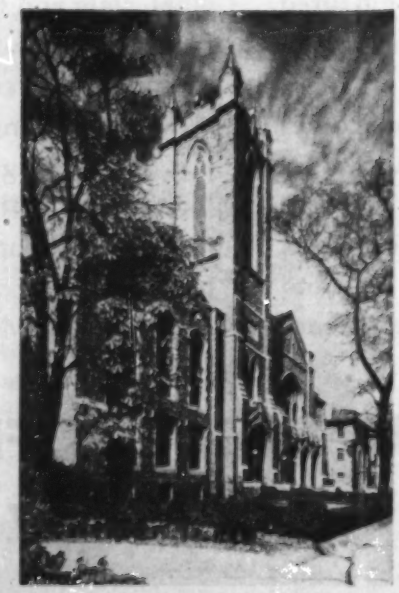
Tower Music Systems
Acoustic Correction Units
Voice and Music Distribution Systems
Individual Hearing Aids
Automatic Music Programs
Phonograph Transcriptions

for



Details and architectural specifications available upon request.

SCHULMERICH
ELECTRONICS, INC.
Sellersville Pennsylvania

Churches

OPPORTUNITIES AVAILABLE

ARCHITECTURAL ENGINEER WANTED: Must be good draftsman, preferably a graduate, with at least five years practical experience in reinforced concrete and steel structure designs for large industrial and commercial buildings.
Permanent position with large corporation located on the eastern seaboard now open for man who can properly qualify.
Write giving age, draft status, complete outline of your education, experience, pertinent personal data, expected salary and availability under W.M.C. regulations.
Box 14, ARCHITECTURAL RECORD, *119 West 40th Street, New York 18, N. Y.*

WANTED: Executive Director, needed by Housing Authority of Milwaukee. Salary $5500 with civil service and pension rights. Examination, closing October 30, will consist solely of an appraisal of professional record as shown by questionnaire, and of an oral interview. Apply immediately to City Service Commission, City Hall, Milwaukee, Wisconsin.

LESS FOOTWORK

when the Communicating and Signalling System is by C. T. & E.

The less footwork in a hospital, the greater its efficiency. Connecticut Telephone & Electric systems cut such fatiguing, time-wasting drudgery to a minimum. To accomplish this is more than a matter of having plenty of telephones spotted throughout a building . . . it calls for plenty of experience and engineering know-how. It is done with special types of telephone equipment, scientific signalling, practical doctors' registry units, special-purpose inter-com systems, and careful integration of the entire installation.

Prompt reconversion to the manufacture of advanced communication systems for hospitals and institutions can be effected as soon as our present war job is finished. If you have postwar construction in the planning stage, look to "Connecticut", as always, for progress in communicating and signalling equipment.

ARMY & NAVY

GAI

CONNECTICUT TELEPHONE & ELECTRIC DIVISION

GREAT AMERICAN INDUSTRIES, INC. • MERIDEN, CONNECTICUT

THE RECORD REPORTS (Continued from page 120)

HOUSING REPORT

More than 8,400 units of publicly financed war housing have been moved or are being moved from one war production center to another, from distances of 2½ to nearly 900 miles, to keep pace with shifting manpower needs, the NHA reports.

Some of this housing was originally built by prefabrication with demountability as a feature, but numbers of units, not originally planned with movement in mind, are being moved after first being cut up into panels. One such move, from Wilmington, Del., to Front Royal, Va., a distance of 186 miles, has just been completed by the FPHA. This was the first experiment in moving regular temporary war housing. Two buildings, one of one story, the other of two, containing 12 units in all, were cut apart and panelized before shipment, later re-erected with very slight loss of materials.

Another experiment, just starting at Niagara Falls, N. Y., will determine the feasibility of converting a two story war dwelling into smaller single story structures for re-use elsewhere as war housing.

Houses not only are being re-used again in other cities to house war workers but, where need is warranted, are being moved and converted into schools, clinics, barracks, etc. The structures being converted into other uses are in the main of the dormitory type, since this structure lends itself to easier conversion for these purposes, and because family units are still in great demand in war production centers where additional recruitment and step-up in production is taking place.

NEW YORK STREET PLANNING

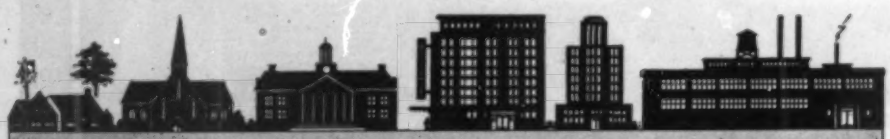
Edgar J. Nathan, Jr., president of the Borough of Manhattan, New York, in his annual report lists 59 postwar projects under his jurisdiction, totaling $180,395,000. One of them, the Lower Manhattan Crosstown Express Highway, is deferred until the Brooklyn-Battery Tunnel is completed, and a traffic study can serve as guide to the timing of this crosstown route.

Mr. Nathan estimated that initial contracts could be let on $12,000,000 on two weeks' notice and about $56,000,000 more of total public works by January 1 next.

The report includes a rendering of a section of the proposed Harlem River Drive, a map of the route and a map of the borough's waterfront expressways, existing and proposed. The projects include completion of the West Side Elevated Express Highway from Duane Street to the Brooklyn-Battery Tunnel, already partly constructed, and the completion of the East River Drive from Montgomery Street to Broad Street.

"The highway projects," Mr. Nathan said, "are made up primarily of routes along the various waterfronts of the borough, designed to further the completion of a comprehensive system of such routes along the Hudson, East and Harlem Rivers, and of crosstown routes. These thoroughfares are laid out to divert as much long-haul traffic as possible from the main business streets in the central part of the borough to routes along the east and west margins of Manhattan, permitting the central streets to handle more efficiently the various types of business and commerce that are located among them.

"The express routes are also designed to detour as much of this long-haul traffic as possible around the residential areas."



EVERY Kind of Building NEEDS
PECORA
WEATHER—PROTECTION

The need for calking all exposed building joints has long since been accepted by leading architects and builders. It is not so much a question of whether to calk, as it is which calking material to use.

Pecora is a pioneer in the calking material field. First introduced in 1908, Pecora Calking Compound has been weather-protecting buildings of every description, large and small, ranging from the towering Empire State Building down to modest dwellings.

The reason for the favored use of Pecora Calking Compound by experienced specification writers, engineers and contractors, is found in the uniformly high standard of its performance. Time alone is the real test of a calking material, and Pecora has been time-tested for 38 years under all kinds of weather conditions.

The Pecora formula is so basically correct and the quality of ingredients so dependable, that this superior calking compound simply will not dry, crack or chip when properly applied. It remains permanently resilient as a seal between building joints of the same or different co-efficients of expansion and contraction.

Let us prove to you that Pecora Calking Compound deserves inclusion in your specifications for post-war construction.

Write for Folder and Prices

Pecora Paint Company, Inc.

2nd Street & Erie Avenue, Philadelphia 40, Pa.

Established 1862 by Smith Bowen

CUT FUEL BILLS
STOP DRAFTS AND LEAKS

A GOOD RULE

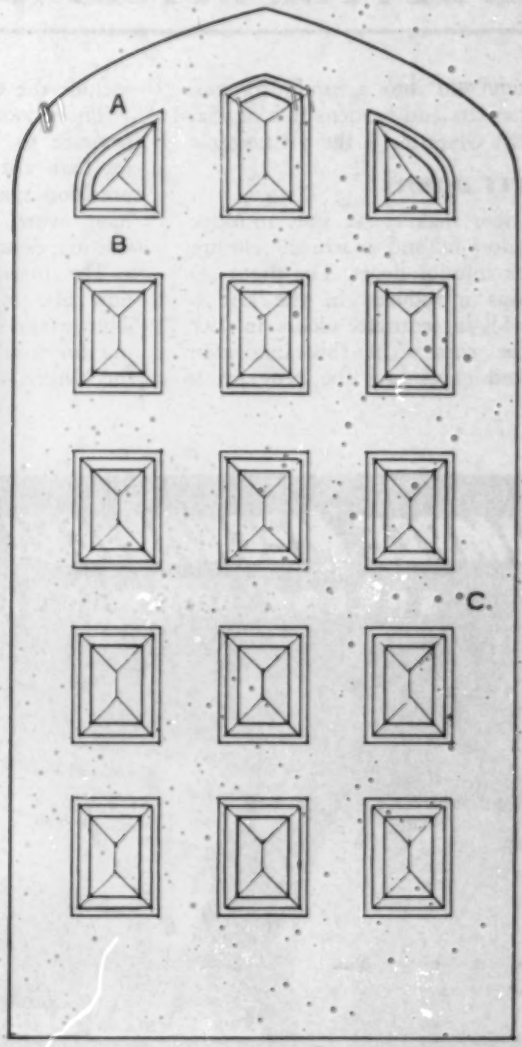
Select your hardware first — then detail to suit it. American manufacturers have standardized to a great degree. By making your details to suit these hardware standards you will *save* your clients' *money, expedite delivery,* and *eliminate* many aggravating hardware *problems.*

Keep an eye on A-B-C when DETAILING *ARCHED DOORS*

ARCHED doors, while usually beautiful and decorative, often start your hardware producer going around in circles, particularly where door closers are needed.

The best way to assure proper teamwork is to get your hardware consultant to advise you when detailing these types of openings. Even for unusual doors there are standard hardware items that fit into the picture as simple as "A-B-C"—and will *save time,* of course, and *cut expense* materially.

A keen eye on the hardware *when detailing* will avoid a black eye on the job.



Thoughtful attention in detailing to suit space required for desired hardware will greatly help at "A" for closers on brackets — at "B" for hinge plates — and at "C" for locks

Let's co-operate: you consider your hardware requirements *early,* and we will gladly help you solve *special* hardware problems. Lockwood Builders' Hardware is featured in Sweet's Architectural Catalogs.

LOCKS? USE *Lockwood*

HARDWARE MFG. CO.
Division of Independent Lock Co.
FITCHBURG, MASSACHUSETTS

As soon as ready please send me the series of 12 Detail Sheets, of which this is No. 9. No obligation.

Name _____

Address _____

_____

 (Continued from page 44)

additional aid into a liquid composition that sets and hardens into an elastic body. Glycerine is the plasticizer.

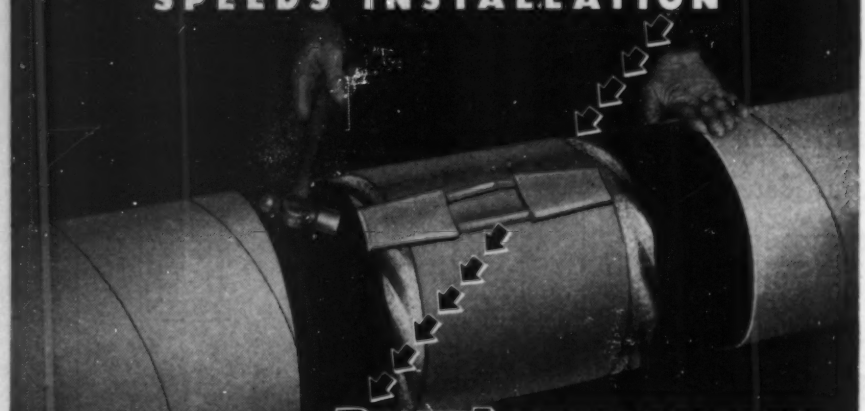
PREFIT DOORS

Fir door makers are now introducing factory-fit and machined closures as stock interior doors. The prefit feature was introduced in the line of heavy 1¾-in. entrance doors in 1939 and the success of this innovation suggested expanding the program to include the entire line of house doors.

These doors, rather than being made oversize to be hand-trimmed on the job, are cut to exact dimensions by precision machinery and are ready to hang when they leave the mass-production door factories.

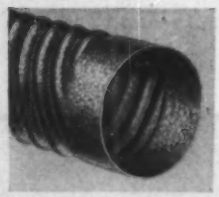
The machining of stock doors is now also often done at the factory. This would include boring or mortising for locks and gaining or routing for hinges.

SIMPLE MECHANICAL COUPLER
SPEEDS INSTALLATION



RIC-WIL PREFABRICATED INSULATED CONDUIT
for piping steam, oil or process liquids

Conduit Ends Expanded Smooth to Facilitate Tight Closure



Special machines at the factory remove corrugations from ends of conduit for a distance of 3", so that coupler sleeves will make a positive, watertight closure when units are joined in the field. Prefabricated expansion loops, elbows and tees also have ends expanded smooth for joining with straight units. The result is a permanent, pressure-tight system, requiring no maintenance.

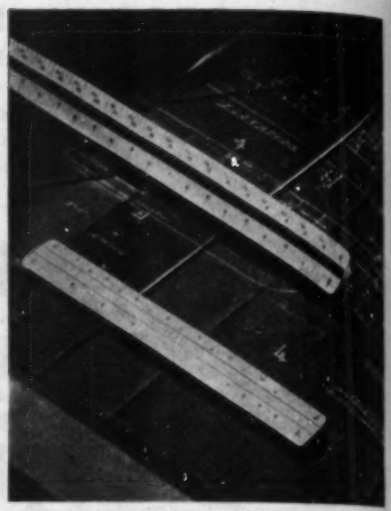
Field assembly of Ric-wiL Prefabricated Insulated Pipe Units has been greatly simplified by a drive coupler, minimizing the need for skilled workmen, and still further reducing installation time. After pipes are coupled or welded and insulation applied, a split connector sleeve is slipped over the opening. Clamps are driven in place (see illustration) drawing the coupler tightly over conduit ends, from which corrugations have been removed at the factory. An asphalt blanket is then applied with heat over the entire uncovered area.

Saves Time and Labor if Welded Closure is Required

The combination of smooth, round expanded ends and drive coupler makes possible a strong, tight welded connection with a minimum of field labor. Clamps are first driven on channels, holding coupler firmly in place while circumferential seams are welded. Clamps are then removed, and longitudinal seam welded.

Write for the new Ric-wiL Catalog

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS
THE RIC-WIL COMPANY · CLEVELAND, OHIO
AGENTS IN PRINCIPAL CITIES



Architects' warp-proof plastic scales

PLASTIC SCALES

Architects' and engineers' scales injection-molded of Tenite plastic are said to be exceptionally accurate and unlikely to warp. The scales are white, with black line and figures. Stripes in different colors painted on each side of triangular scales facilitate finding the desired scale. Molded by American Molding Co., San Francisco, for A. Lietz Co., San Francisco. Tenite used is a cellulose acetate butyrate product of Tennessee Eastman Corp., Kingsport, Tenn.

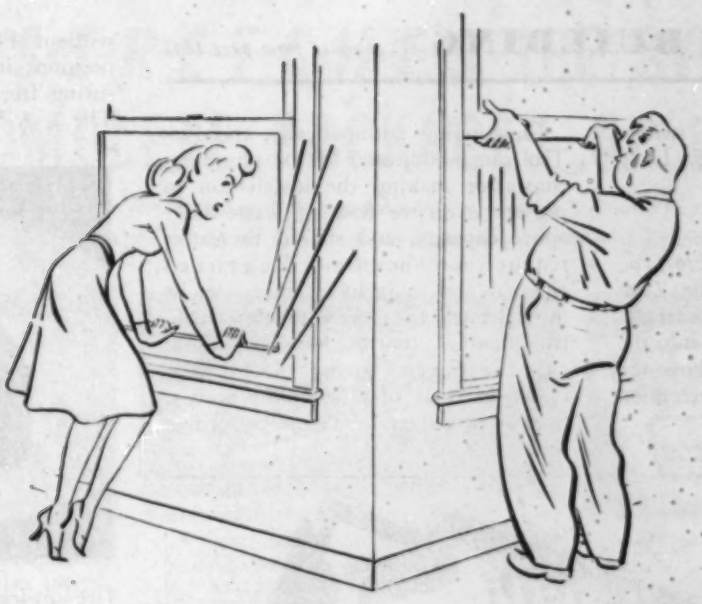
Wall switch plate that lights for new convenience

LIGHTED WALL SWITCH PLATE

Electrically lighted, the *LumiNite Wall Switch Plate* features a tiny shielded light that comes on automatically when room lights are turned out, and remains off whenever room lights are burning. Operating for less than two cents per year, the plate is molded in a single piece of ivory plastic, at the top of which is the housing for the fractional-wattage glow lamp and mechanism.

The unit fits any standard switch, and works equally well in three- and four-way switch arrangements such as those in which a stairway light can be turned on and off from upstairs and downstairs switches alike. Installation consists of connecting two wires

(Continued on page 126)



Peace came...with Improved Heating

"Our entire force was up in arms. Some complained about too much heat . . . Others complained about not enough. Windows went up . . . and came down! Uneven heating was a cause of constant annoyance.

"To end complaints, the management installed a Webster Moderator System of Steam Heating. Now we have even heat all day long. And everyone's satisfied. The management uses less fuel—and we get more work done."

More Heat with Less Fuel

With the Webster Moderator System of Steam Heating, waste of valuable fuel through overheating is minimized. It assures quick heating-up, full control of steam and even room temperatures throughout the building.

Actual surveys made by Webster Engineers show that seven out of ten large buildings in America (many less than 10 years old) can get up to 33 per cent more heat out of the fuel consumed.

For information on improved heating systems, consult "Performance Facts". This free booklet contains case studies of 268 modern steam heating installations and typical results obtained with the Webster Moderator System of Steam Heating.

ADDRESS DEPT. AR-9

WARREN WEBSTER & COMPANY, Camden, N. J.
Pioneers of the Vacuum System of Steam Heating :: Est. 1888
Representatives in principal U. S. Cities : : Darling Bros., Ltd., Montreal, Canada

The Webster Outdoor Thermostat automatically changes heating rate when outdoor temperature changes. This device is part of the Webster Moderator System, a central heat control that is saving fuel for hundreds of America's commercial, industrial and institutional buildings.

Fuel-Saving Starts With CONTROL

Webster
Steam Heating

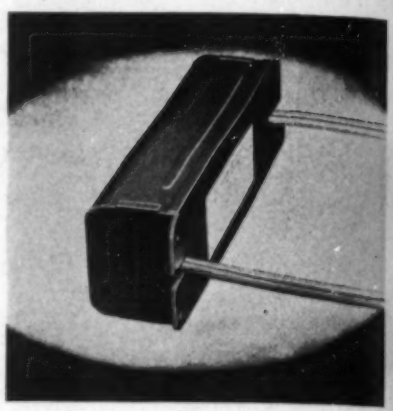
 (Continued from page 124)

to the terminals found on the switch. Associated Products Co., 74 E. Long St., Columbus 15, Ohio.

FLOW CONTROL

A new flow control, the *Flo-Trol*, now being incorporated in the Zurn Greaseptor, is designed to automatically prevent waste-water passage into the grease interceptor in volume above the rated capacity of the interception chamber.

Functioning automatically, the Flo-Trol can be adjusted by the plumbing contractor making the installation to prevent excessive flow of waste-water above capacity, and should thereafter require no adjustment. Features claimed for it include ability to be flush-cleaned by merely touching control handle; control handle position clear of trapped grease though contained in body of Greaseptor; prevention of placement of Greaseptor cover without Flo-Trol being in operating position; internal expanding walls insuring free flushing of trapped solids. The J. A. Zurn Mfg. Co., Erie, Pa.



Two-way-lead ballasts in many ratings

TWO-WAY BALLASTS

New two-way-lead ballasts for the operation of Mazda F lamps are available in the following ratings: Tulamp, 30- and 40-watt, standard cross section; Tulamp 40-watt, high voltage; Tulamp 100-watt; Three-lamp 40-watt; and Forlamp 100-watt.

With leads that can be brought out at either the ends or the bottom of the ballast cases, the new ballasts are interchangeable with—and serve the same applications as—both the superseded leads-out-the-end and leads-out-the-bottom ballasts of the same ratings. They are equally applicable to exposed or enclosed mounting on both commercial and industrial fixtures.

Provision for center-hole or corner mounting has been retained and fixture design changes are not required for application of the new ballasts. Electrically they are identical with the ratings which they replace and prices and dimensions are also unchanged. Genl. Electric Co., Schenectady 5, N.Y.

VENEER COATING

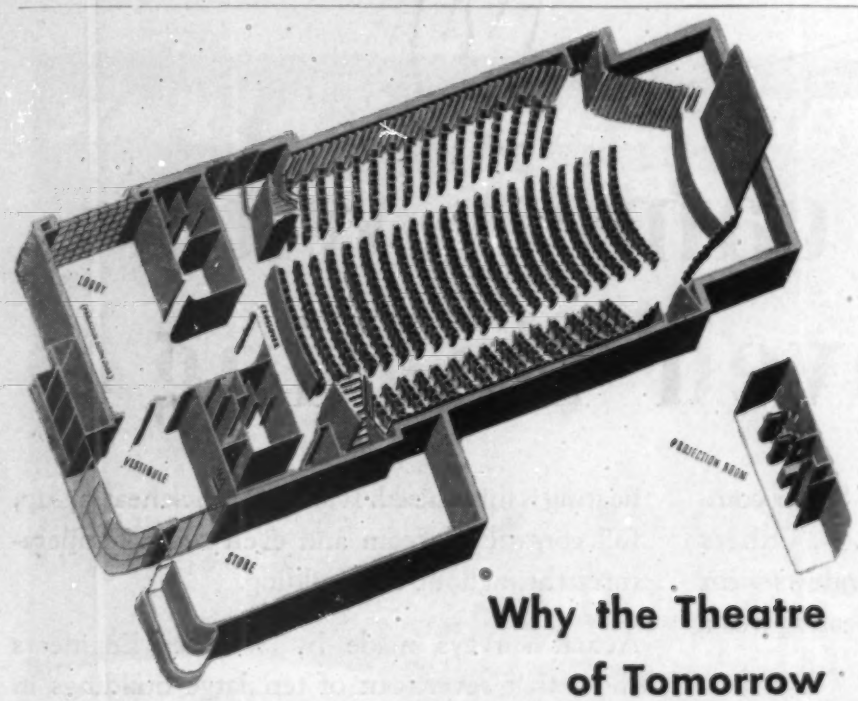
A new ready-mixed veneer coating for concrete, brick and stucco exteriors —*Renewall Composition*—can be applied with a paint brush and is said to seal cracks and leaky joints and paint all in one application. Of heavy viscosity, it is reported to equal about five coats of paint. Approximate life, 10 years. White, limestone, sand stone, ivory, cream and buff; other colors made to order. Paint-Point Corp., 275 Passaic St., Newark, N. J.

STANDARDS

Stock Doors

Commercial Standard for Standard Stock Ponderosa Pine Doors, CS120-44, has been accepted by the trade,

(Continued on page 128)



Why the Theatre of Tomorrow Must Be Spencer Vacuum Cleaned . . .

It Cleans

SCREENS
PROJECTORS
RUGS
WALLS
SEATS
OFFICE
VESTIBULE
FILTERS
BOILERS

Is it reasonable to design a beautiful theatre like that shown above, with fine decorations and expensive equipment, and leave it to the ravages of tramped-in dirt and dust for years to come?

The power of Spencer Central Vacuum Systems is five to ten times that of small portables. It gets more of the dirt, faster and from more places such as organs, projectors, rugs, filters and boiler tubes which can only be cleaned satisfactorily with central vacuum and an adequate assortment of specially designed vacuum tools.

Let us show you a Spencer equipped building in your vicinity.

SPENCER HARTFORD VACUUM CLEANING

THE SPENCER TURBINE COMPANY, HARTFORD 6, CONN.

256A

HOW STEEL *S-T-R-E-T-C-H-E-S* THE SYLVANIA LINE OF "COMPLETE PACKAGES OF LIGHT"

Government release of steel for fluorescent fixture fabrication enables Sylvania to round out its line of "complete packages of light" to fit all industrial and commercial general lighting requirements.

Now there are SEVEN INDUSTRIAL UNITS

Continuous-Row Type

Back into the line come these outstanding Sylvania Fixtures with steel reflectors, designed primarily for continuous-row or end-to-end installations. They are made with the same high quality materials available in 1942.

Single (4-foot) channel top-housing

HFF-104—two 40-watt lamps, for continuous-row mounting
HFF-154—three 40-watt lamps, for continuous-row mounting

Double (8-foot) channel top-housing (Continuous wire-way enclosure reduces cost of continuous-row installations)

HFF-208—four 40-watt lamps, for continuous-row mounting
HFF-308—six 40-watt lamps, for continuous-row mounting

All models come completely equipped with lamps, ballasts, and starters—pretested and ready for immediate installation.

All-Purpose Type

The famous Sylvania "Fixture of the Future," which has proven so popular in war industry, is now available with a reflector drawn from 20-gauge steel, with a reinforcing lip. Finished with durable synthetic enamel. For either continuous-row or individual mounting.

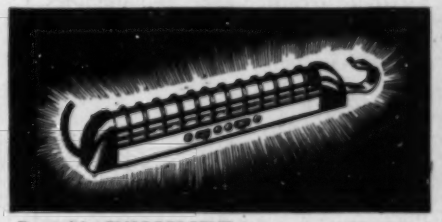
HF-100S steel reflector has knockouts that provide for easy conversion from two to three lamps. The streamlined top-housing in all models has knockouts that make almost any type of mounting possible, Supplied in "complete packages of light" with lamps, starters, and ballasts, pretested, wired, and ready for immediate installation.

HF-100S—two 40-watt lamps
HF-150S—three 40-watt lamps
HF-235S—two 100-watt lamps

SYLVANIA
ELECTRIC PRODUCTS INC.

Salem, Massachusetts

FLUORESCENT LAMPS, FIXTURES AND ACCESSORIES,
INCANDESCENT LAMPS, RADIO TUBES,
CATHODE RAY TUBES, ELECTRONIC DEVICES



Portable FLUORESCENT WORK LIGHT FOR INDUSTRY

P-7 Sylvania Extension Cord Lamp makes fluorescent light portable for the first time. Compact dimensions—10¼" x 1 3/16" x 1⅞". Goes anywhere the hand can reach in close-quarter work. Cool and adequate light from a 6-watt Sylvania Fluorescent Lamp is safe and efficient. Steel guard prevents lamp breakage. Handy hook leaves both hands free to work. Operates on 110-125 volts, 60-cycle, AC only.

Now there are SEVEN COMMERCIAL UNITS

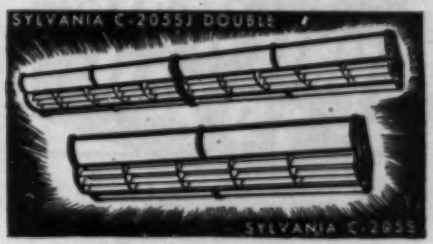
Two-Lamp Shielded and Unshielded

It is now possible to resume the manufacture of this handsome and adaptable series. All models have steel reflectors and employ 40-watt lamps. This variety of models will make for wider fluorescent application to the commercial and institutional field.

Two 40-watt Lamps

C-100 unshielded with pendant
C-101 shielded with pendant
C-113 unshielded surface-mounted
C-115 shielded surface-mounted

All models are supplied with Sylvania Lamps as "complete packages of light."

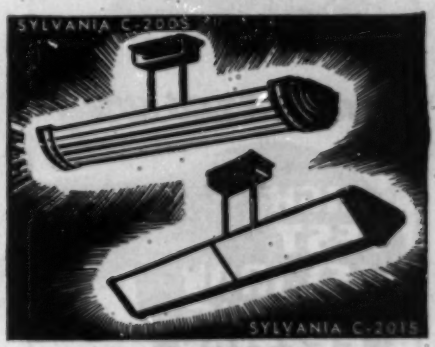


Louver Type

These highly efficient fixtures are decorative in appearance but functional in design, with diffusing panels on each side of the lamps and louvers directly beneath. Equipped with four 40-watt lamps. Steel reflectors.

Four 40-watt Lamps

C-205S individual surface-mounted



Four-Lamp Shielded and Unshielded

These Sylvania Fixtures, which are ideal for stores, offices, laboratories and hospitals, now are equipped with 20-gauge steel reflectors finished with synthetic enamel. New design hinged end-caps and hinged diffusing panels make for easier and speedier maintenance. Supplied complete with four 40-watt Sylvania Fluorescent Lamps, Dua-Lamp Auxiliaries, and Starters—pretested and ready for immediate installation. Available with or without pendant.

Four 40-watt Lamps

C-200S unshielded, surface-mounted, individual
C-201S shielded, surface-mounted, individual

Leading Manufacturer of Fixtures in the Fluorescent Field

IF YOU HAVE A PROBLEM *TO WHICH FLUORESCENT MIGHT BE APPLIED, WHY NOT CONSULT SYLVANIA ENGINEERS?*

SYLVANIA "COMPLETE PACKAGES OF LIGHT"

Industrial Fixtures

HFF-104 . . . . ( )
HFF-154 . . . . ( )
HFF-208 . . . . ( )
HFF-308 . . . . ( )
HF-100S . . . . ( )
HF-150S . . . . ( )
HF-235S . . . . ( )
P-7 . . . . ( )

Commercial Fixtures

C-100 . . . . ( )
C-101 . . . . ( )
C-113 . . . . ( )
C-115 . . . . ( )
C-205S . . . . ( )
C-200S . . . . ( )
C-201S . . . . ( )

SYLVANIA ELECTRIC PRODUCTS INC., Boston Street, Salem, Mass.
Dept. AR 944

Please send me information on the fixtures I have checked.

Name_____

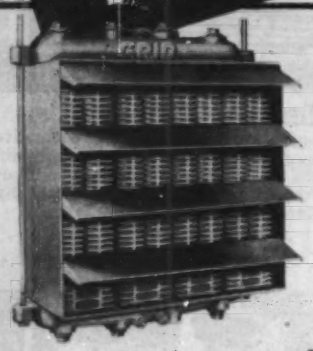
Title_____

Firm_____

Address_____

City_____ State_____

THERE'S NOTHING IN THIS UNIT HEATER TO FAIL



and here's why!

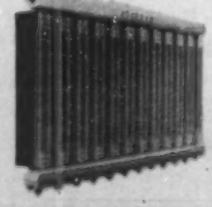
HIGH TEST CAST IRON HEATING SECTION

★ One piece construction heating sections (patented) of high test cast iron.

★ No soldered, brazed, welded or expanded connections.

★ Similar metals so there is no electrolysis to cause corrosion, breakdown or heating failures. Constructed to stand steam pressures up to 250 lbs.

That's why GRID Unit Heaters outlast other types of heating equipment, without maintenance expense. They are built to last—to stand wear as long as the pipes furnishing steam or hot water to them, so why install unit heaters that will lose their efficiency after a short period when you can get GRID for permanency? In many plants in all parts of the country GRID Unit Heaters have been operating for over 10 years without maintenance expense. Capacity tables and complete engineering data upon request.



D. J. MURRAY MANUFACTURING CO.
WAUSAU, WISCONSIN
Offices in all principal cities

GRID

FOR BETTER BUILDING

(Continued from page 126)

the U. S. Department of Commerce has announced, and is effective for new production from Sept. 15, 1944.

The standard provides minimum specifications in four thicknesses, covers construction, grades and tolerances for these requirements, and includes a paragraph on the specification of "Prefit" doors.

Metal Lath

Printed copies of Simplified Practice Recommendation R3-44, Metal Lath (Expanded and Sheet) and Metal Plastering Accessories are now available, according to an announcement of the Division of Simplified Practice, National Bureau of Standards. The recommendation will be effective when the critical materials used in the manufacture of the commodities covered become available.

Planned for postwar use, this recommendation will enable the industry to make quickly available an adequate supply of metal lath and plastering accessories for the anticipated postwar expansion in building activities. It further simplifies the types, weight and sizes of items in the issue which it supersedes, and broadens the coverage of the recommendation to include bullnose corner bead, corner lath, strip lath, base screeds, metal casings, concealed picture mould, tie wire, hanger wire, and metal studs for hollow partitions.

Copies of Simplified Practice Recommendation R3-44 may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 5 cents each.

Steel Lockers

The Standing Committee in charge of reviewing and revising Simplified Practice Recommendation R35-28, Steel Lockers (Single, Double, and Multiple Tier), has approved a revision of the recommendation, and the Division of Simplified Practice of the National Bureau of Standards has mailed copies to all interests for consideration and approval.

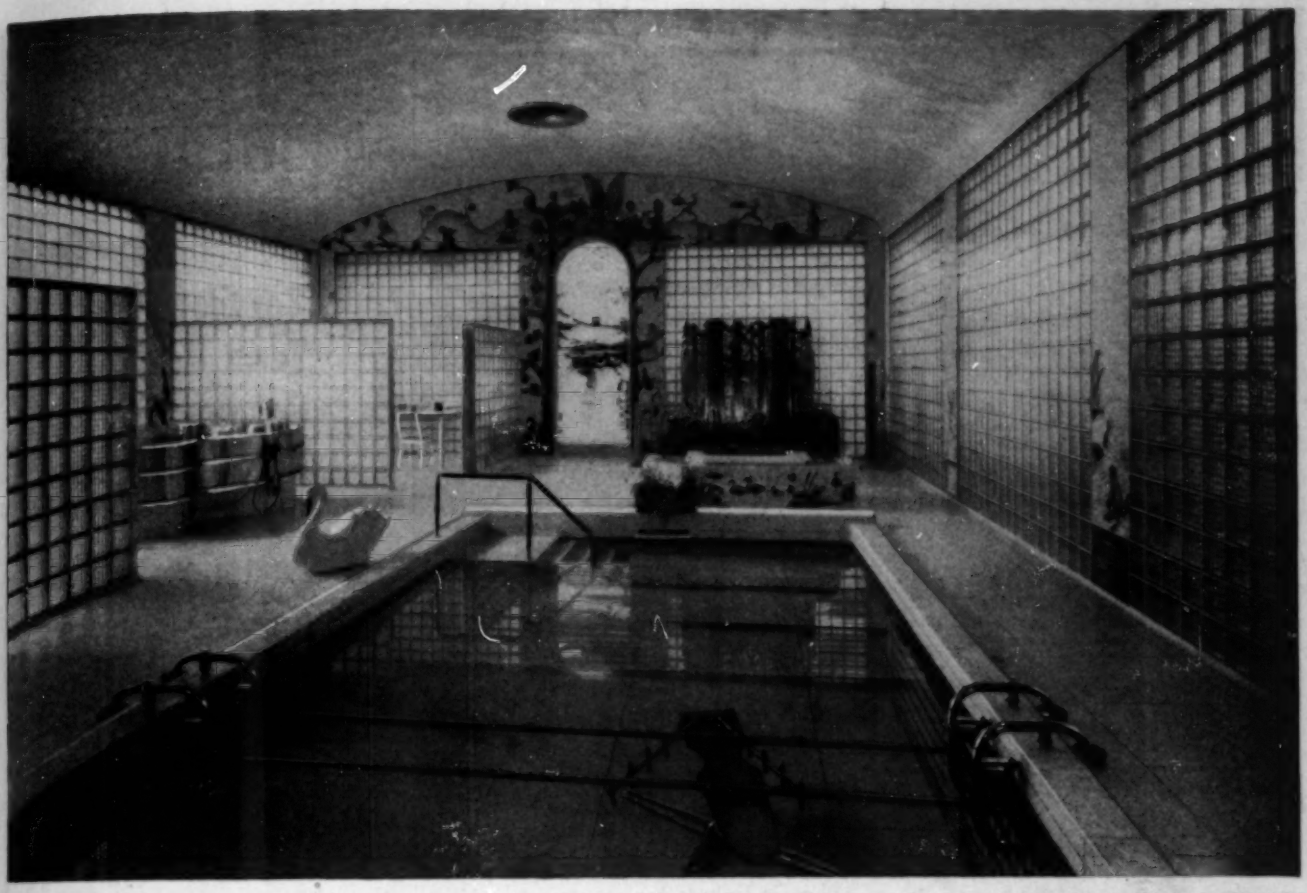
The Committee recommends the dropping of two sizes of single tier lockers, the addition of two sizes of double tier lockers, a change in the size of one multiple tier locker, the addition of three sizes of multiple tier lockers, and the addition of several paragraphs of general information.

A limited number of mimeographed copies of the proposed revision may be obtained without charge from the above named Division, Washington.

Convenient, comfortable, hospitable —that's Cleveland's favorite hotel

Hotel Cleveland
CLEVELAND, OHIO

Directly Connected with Union Passenger Terminal



SHRINE HOSPITAL FOR CRIPPLED CHILDREN, SAN FRANCISCO, CALIF. — ARCHITECTS, WHITEHOUSE & PRICE, ON ORIGINAL BUILDING

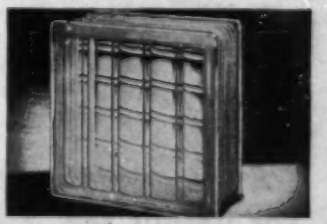
"What a cheerful place
THIS HOSPITAL IS!"

A truly beautiful hospital where everything is sunshine, sweetness and light! A hospital for crippled children—built by the Shriners of San Francisco!

The pool is a vaulted, sun-filled room paneled in structural glass of azure blue. The doors are of glass and are electrically operated. The special plate glass sections carry colorful decorations of charming fairy tale figures. And the walls of Insulux Glass Block provide shadowless, diffused light – without objectionable glare.

The entire building fairly sparkles with light, as Insulux panels and partitions have been used on every floor.

Panels of Insulux Glass Block are both decorative and practical. In operating rooms, wards, corridors, laundries and kitchens! They are easy to clean and to keep clean, and they add much to the cheerfulness and attractiveness of the hospital.



Insulux Glass Block is a functional building material — not merely a decoration. It is designed to do certain things that other building materials can not do. Investigate!

OWENS-ILLINOIS

INSULUX

GLASS BLOCK

For technical data, specifications and installation details, see our section in Sweet's Architectural Catalog, or write: Insulux Products Division, Dept. 64, Owens-Illinois Glass Company, Toledo, Ohio

"Spot Ventilation" MEANS Blo-Fan

Unique Combination of Fan and Blower Principles

GOOD RIDDANCE TO UNWANTED ODORS

BLO-FAN "Spot" Ventilation rids the home of unwanted odors *at their source*—in kitchen, bathroom, gameroom, laundry. Grease and smoke-laden vapors are whisked away before they can soil walls, draperies or furnishings.

BLO-FAN provides the *volume* of the breeze fan and the *power* of the blower. No cooking odors penetrate the house to tattle on the dinner's menu.

Specify Today!

For Details see our Catalog in 1944 SWEET'S

BUY U.S. WAR BONDS *Now!*

PRYNE & CO., INC.

1245 E. 33rd ST. LOS ANGELES

Branches (to be reestablished after war)

SAN FRANCISCO · SEATTLE · CHICAGO · NEW YORK

REQUIRED READING

(Continued from page 32)

plastics refrigerator will be a familiar sight in the postwar period." Second, that the outer door "is a natural for pulp-molding." Third, that furniture is a fertile field for the use of plastics. And fourth, "there is needed a host of plastics cabinets, housings, etc., for washing machines, sewing machine covers, radio and television consoles, air conditioning housings, vacuum cleaner parts, trays, etc."

NEW CONCEPTS IN REINFORCED CONCRETE

For School Design. By Lester S. La Pierre. The American School Board Journal, Milwaukee 1, Wis. (540 N. Milwaukee St.), July, 1944, pp. 31-33, illus.

The advantages of reinforced concrete for postwar school construction are, in Mr. La Pierre's opinion, numerous. Concrete is permanent and fireproof, for one thing; it is a material "which requires minimum reconversion of basic industry and utilizes in construction a large proportion of unskilled labor." Furthermore, Mr. La Pierre points out, it is "particularly suited" to building with flexibility of plan in mind, for it can provide a strong and weathertight shell within which the partitions can be rearranged as necessary. And it is economical.

Having lined up all these arguments in its favor, Mr. La Pierre emphasizes the recent developments in concrete design. "Concrete," he concludes, "need not be imitative—it has character of its own. It is well suited in many respects to the architecture of the future, which will be based on clean-cut organic plans and direct plastic expression of structural forms."

HOUSING PROBLEMS

Of Interest to the Public Health Engineer. By M. Allen Pond. American Journal of Public Health, New York 19 (1790 Broadway), July, 1944, pp. 729-734.

Problems of water supply, sewage and refuse disposal, and the like are here discussed from the point of view of the public health engineer. Architects, particularly of large-scale housing developments, will find what Mr. Pond has to say well worth reading.

Several recommendations are made: (1) that builders be required to submit plans for the development of on-site water supply and sewage disposal facilities to the state health department for review and approval before construction begins; (2) that official pressure be exerted by the health department to assure the rat-proofing of new and existing houses in many communities; (3) the development of modern housing regulations in every locality.

NEW ARCHITECTURE IN MEXICO

Hospitals
Town Houses
Country Houses
Office Buildings
Store Groups
Factories
Schools
Apartments
Workers' Houses

Modern Architecture below the Rio Grande, with its straight line, unornamented flat surfaces, presents a dramatic contrast to the old, heavily ornamented Spanish Colonial buildings. Yet Esther Born, in her book "THE NEW ARCHITECTURE IN MEXICO" has delineated in text, photographs and colored diagrams, including supplementary text on mural painting, sculpture, and pottery, how perfectly acclimated it has become to its background.

This new volume is a reference source for building designers everywhere, and contains a complete assemblage of the progressive thought of architects and engineers of the Aztecs and the Spanish Americans. Reduced price $2.50.

ARCHITECTURAL RECORD
Book Dept.
119 West 40th, New York 18, N. Y.

Enclosed is a check or money order for $2.50. Please send me NEW ARCHITECTURE IN MEXICO.

NAME .....

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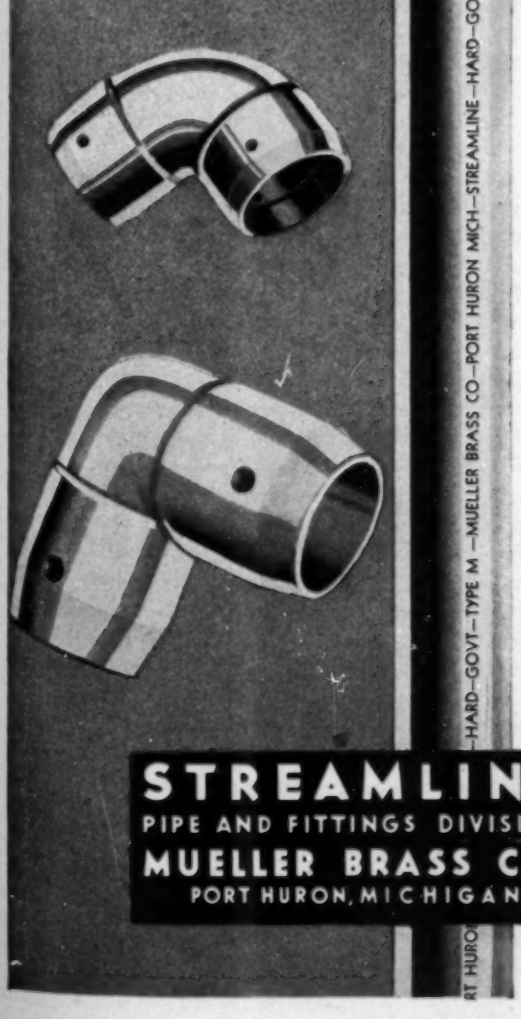
AR 9-44

Is Its BEAUTY only SKIN DEEP?



After all, what is the most important thing in any building designed for human habitation? There is only one answer; it is the plumbing or heating piping system, or both. The building may be the last word in modern design with beautiful and modern bathroom and kitchen fixtures, but they are utterly useless if the arteries which supply them with hot and cold water are defective and unreliable. The building's outward beauty will be only SKIN DEEP.

The informed prospective buyer or tenant of tomorrow will ask a lot of searching questions about plumbing and heating piping systems. He has become "piping conscious" and "rust conscious" too. He will demand a piping system that will not corrode and one that will offer the greatest possible resistance to clogging or leaking.

If you agree that a reliable, rust-proof piping system is a vitally important item in promoting comfort and liveability in the home, why not make a leader of it for post-war building? It can be a most effective sales argument to sell or rent property.

A plumbing or heating system of STREAMLINE Copper Pipe and Fittings, installed under normal conditions means efficient, trouble-free performance without repair bills, year after year, for the life of the building.

Investigate STREAMLINE now, and plan on using it either for remodeling or new, post-war construction. Send for catalog . . . it gives you the complete story.

STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN